# REPORT ON SELF-IMPLEMENTING CLEANUP AND DISPOSAL PLAN FORMER ENERGY INTERNATIONAL, INC. PARCEL CYPHER STREET SOUTH BOSTON, MASSACHUSETTS

by

Haley & Aldrich, Inc. Boston, Massachusetts

for

**United States Environmental Protection Agency Boston, Massachusetts** 

File No. 06318-530 October 2012

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31 October 2012 File No. 06318-530

United States Environmental Protection Agency Region 1 Office (EPA New England) 5 Post Office Square, Suite 100 Mail Code: OSRR07-2 Boston, Massachusetts 02109

Attention: Ms. Kimberly Tisa

Region 1 TSCA PCB Coordinator

Subject: Self-Implementing Cleanup and Disposal Plan

Former Energy International, Inc. Parcel

Cypher Street

South Boston, Massachusetts

Release Tracking Number (RTN) 3-29395

Dear Ms. Tisa:

Haley & Aldrich, Inc. (Haley & Aldrich) is pleased to submit this Self-Implementing Cleanup and Disposal Plan ("SIP") for the above-referenced project site. This document has been prepared pursuant to 40 CFR 761.61 of the regulations under the Toxic Substances Control Act (TSCA) and is being submitted in accordance with the requirements at 40 CFR 761.61(a)(3) and 761.61(c) for notification and management of bulk PCB remediation waste. The subject property is also a Disposal Site pursuant to the Massachusetts Contingency Plan (MCP) 310 CMR 40.0000. The Massachusetts Department of Environmental Protection (MassDEP) has assigned Release Tracking Number (RTN) 3-29395 to the Disposal Site (hereinafter referred to as the "Site").

Haley & Aldrich prepared this Self-Implementing Plan on behalf of our clients, The McCourt-Broderick Limited Partnership c/o The McCourt Company, Inc. (the Owners) in preparation for remediating PCB-impacted soils at the subject site. The information presented herein should be considered the most up-to-date information as of the date it is submitted.

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We have very much appreciated your guidance and assistance with this project to-date. Please do not hesitate to contact us should you have any questions or require additional information. Sincerely yours,

HALEY & ALDRICH, INC.

Bryan O Dannes

Bryan O. Gammons Staff Scientist Cole E. Worthy III Vice President, LSP

Mark X. Haley

Senior Vice President

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#### **Enclosures**

c: MassDEP: Attn: Bureau of Waste Site Cleanup

McCourt-Broderick Limited Partnership c/o The McCourt Company, Inc.: Attn: Austin

Regolino

Davis Malm & D'Agostine: Attn: William Griffin and Paul Feldman

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#### 1. INTRODUCTION

## 1.1 Purpose and Scope

The sampling and analysis plan described herein was developed with EPA guidance in accordance with 40 CFR 761.61(c) to support The McCourt-Broderick Limited Partnership c/o The McCourt Company, Inc. remedial goals. The results form the basis for identifying and characterizing the portion of the Site regulated under both the Massachusetts Department of Environmental Protection (MassDEP) Massachusetts Contingency Plan (MCP), 310 CMR 40.0000 and Toxic Substances Control Act (TSCA) and for determining appropriate cleanup and disposal activities to be conducted to achieve applicable TSCA remedial goals.

The portion of the property that is the subject of this Self-Implementing Plan consists of the area where PCBs have been detected in soils at concentrations greater than 1 mg/kg and thus are regulated under the TSCA. The limits of the area regulated under TSCA are shown on Figure 2 and Figure 5 and consist of approximately 4,775 sf. The TSCA-regulated area is a subset of the MCP site tracked under RTN 3-29395 and is therefore also subject to the requirements of the MCP.

Remedial activities and Site improvements will be coordinated with and conducted in accordance with the requirements of the MCP. The SIP and an MCP Release Abatement Measure (RAM) Plan will provide guidance for the management of soils and groundwater at the Site during redevelopment.

#### 1.2 Site Location and Conditions

The Former Energy International, Inc. property is located in South Boston, Massachusetts, at the intersection of South Boston Bypass Road and Cypher Street (Figure 1). The subject property is also a Disposal Site pursuant to the MCP, 310 CMR 40.0000. MassDEP has assigned Release Tracking Number (RTN) 3-29395 to the Disposal Site (hereinafter referred to as the "Site"). Haley & Aldrich submitted an MCP Phase I Initial Site Investigation Report, Tier II Classification Submittal and Conceptual Phase II Scope of Work for the Site to MassDEP on 25 July 2011.

The Site consists of one parcel totaling approximately 18,000 ft of land and is referenced as City of Boston Tax Assessor Parcel Number 06-2771-100. The limits of the Site are indicated as shown on Figure 2. The Site is located in an urban area of South Boston and is generally covered by gravel, broken concrete, abandoned railroad tracks and other miscellaneous debris, and/or vegetation. No buildings currently exist on the Site, with the exception of a small signal cabinet structure associated with the inactive rail service. The Site is relatively level with elevations ranging from approximately El. 15 to El. 17 Boston City Base (BCB).

The Site is located in an urban setting in a mixed commercial, industrial area of South Boston. The Site is bounded by the South Boston Bypass Road to the northwest, Cypher Street to the northeast, B Street to the southeast, and a portion of West 1<sup>st</sup> Street to the southwest. Some portion of the Site is paved with the remainder unpaved. The Universal Transverse Mercator (UTM) Coordinates for the Site are UTM Northing: 4689905 and Easting: 330990 Zone 19.



## 1.3 Historical Site Usage

Based on a review of available aerial photographs, Sanborn Maps and previous reports prepared for the subject Site and surrounding properties, historically, the Site was utilized as a rail yard by the New York, New Haven, and Hartford Railroad (NHRR), prior to the purchase of the NHRR by Penn Central railroad. Review of Sanborn Maps dated from the period 1888 through 1988 indicates that the Site was occupied by numerous railroad tracks. In approximately 1980, Broderick Properties, Inc. (a subsidiary of The McCourt Company) entered into a Purchase and Sale Agreement to buy the subject Site from Penn Central Corp. FPC Properties, Inc. (a subsidiary of Cabot, Cabot & Forbes) subsequently purchased the subject site from Penn Central Corp. After some litigation, in June 1987, the subject site was awarded by the Court to Energy International, Inc. (a subsidiary of The McCourt Company).

The former Energy International, Inc. property (City of Boston Tax Assessor Parcel Number 06-2771-100) is one of multiple parcels located within the disposal site boundaries of the Boston Junk/SAK Recycling Corporation (also known as Former Boston Junk), 14 Louis Street, Boston, MA (RTN 3-0580). The Boston Junk/SAK disposal site, RTN 3-0580 was reported to MassDEP in the early 1980s due to a release of polychlorinated biphenyls (PCBs) from transformers formerly stored at this location. In 1992 a limited subsurface investigation program indicated that PCB contamination was present at the subject Site. Soil remediation was undertaken for the CSX easement that extends through the northeast corner and the east side of the Cypher Site, as well as for substantial portions of the properties located northeast of B Street and the Site by the Massachusetts Highway Department during the Central Artery (I-93/Tunnel(I-90)) project. In 1999 and 2000 the Boston Redevelopment Authority and Massachusetts Convention Center Authority (BRA/MCCA) acquired the Boston Junk/SAK Recycling properties (Parcels 0602772002, 0602773001, and 0602773002), including a portion of the Energy International properties (Parcel 0602771000), which is the subject Site. The (BRA/MCCA) acquired most of the properties associated with Boston Junk/SAK Recycling Corporation through eminent domain and subsequently initiated cleanup response actions on these properties to make the site suitable for unrestricted human use. Oil and hazardous material (OHM) contaminated soil was excavated and removed for off-site disposal.

Review of available reports and Sanborn Maps indicate that Boston Junk/SAK Recycling Corporation activities were primarily limited to the area east of New Cypher Street and it is not known how much activity associated with the Boston Junk/SAK Recycling Corporation occurred at the subject Disposal Site, RTN 3-29395. Sanborn Maps do not indicate any buildings to have existed on the subject Site.

Boston Junk/SAK records indicated that Boston Junk commonly purchased large numbers of electrical items including transformers, capacitors, wire, cable, and lead coated cable, from Boston Edison Company. Firefighting activities are believed to have also contributed to the PCB and associated total petroleum hydrocarbon (TPH) and metals migration across the Boston Junk/SAK disposal site.

The Boston Junk/SAK disposal site was the subject of litigation in the Commonwealth of Massachusetts, Boston Redevelopment Authority and the Massachusetts Convention Center Authority, Plaintiffs v. Boston Edison Company, SAK Recycling Corporation, Fiore Construction, Co., Inc and Walter Fiore Defendants, Mass Sup. Ct. Civ. Action No. 96-0673A. Haley & Aldrich previously reviewed the Final Judgment in Civil Action Number 96-0673A and 96-0628D (Final Judgment) dated 8 March 2006. It was concluded that the Final Judgment pertained to PCB impacted land at, and in the area of, the former Boston Junk/SAK Recycling operations, a portion which is now occupied by the Boston Convention & Exhibition Center (BCEC) and New Cypher Street.



#### 1.4 Previous PCB Remediation

Limited subsurface testing indicated that PCB contamination was present at the subject Site, some of which was remediated prior to the 1992 construction of the adjacent South Boston Haul Road (currently South Boston Bypass Road). Soil remediation was performed under the Central Artery (I-93/Tunnel (I-90)) Project on behalf of the Massachusetts Highway Department in preparation of the South Boston Bypass Road. Remediation consisted of the excavation and replacement of approximately 5,200 tons (within and beyond the limits of the subject site) of PCB-impacted (>2mg/kg) surficial soils as documented in the Camp Dresser and McKee (CDM) report submitted to the Massachusetts Highway Deapartment entitled: "Summary Documentation Report for the Close-Out of PCB Remediation Site, South Boston Haul Road, Central Artery/Tunnel Project, Volumes 1&2," dated February 1993.

Remedial goals were to allow PCB concentration levels less than 2 mg/kg in surficial soils. The CDM report further indicated that an isolated area, consisting of approximately 175 cubic yards (cy) of soil containing PCB concentrations exceeding the Upper Concentrations Limit (UCL), potentially remained at the Boston Haul Road Site (exact location not defined). The limits of the PCB remediation and limits of the subject Disposal Site are indicated as shown on Figure 2. Historical confirmatory PCB data provided by CDM at the Site and surrounding area is presented in Table I of this Report.

In the years of 1990 to 1992 MassHighway conducted MCP remedial response action assessment and cleanup of the right-of-way for the Haul Road/SBBR as part of the Central Artery/Third Harbor Tunnel project. This project included assessment, cleanup and achievement of a MCP permanent solution for the CSX easement that extends through the northeast corner and east side of the Cypher Site, as well as for substantial portions of the properties located northeast of B Street and the Site. The limits of the PCB remediation and limits of the subject Disposal Site are indicated as shown on Figure 2.

## 1.5 Regulatory History and Status

#### 1.5.1 RTN 3-0580

Review of the MassDEP database listing for the Boston Junk/SAK disposal site indicates that the Boston Junk/SAK disposal site (RTN 3-0580) is classified as a Tier 1A site under the MCP, 310 CMR 40.0000 indicating that any remedial/intrusive work would require approval from the MassDEP. Review of the MassDEP database and reports prepared by others indicates that the Boston Junk/SAK disposal site is also regulated under the United States Environmental Protection Agency's (EPA's) Toxic Substance Control Act (TSCA).

The Boston Junk/SAK disposal site, RTN 3-0580 (was reported in the early 1980s due to a release of polychlorinated biphenyls (PCBs) from transformers formerly stored at the site. Boston Junk/SAC records indicated that Boston Junk commonly purchased large numbers of electrical items including transformers, capacitors, wire, cable, and lead coated cable, from Boston Edison Company. Firefighting activities are believed to have also contributed to the PCB and associated TPH and metals migration across the Boston Junk/SAK disposal site.

In 1998, Boston Edison Company completed an Immediate Response Action (IRA) within the former Boston Junk/SAK Recycling Corporation portion of Disposal Site RTN 3-0580 to address elevated levels of PCBs in soil in this area. The purposes of the IRA were to abate a potential imminent hazard condition on the former SAK property, and to assess the nature and extent of PCB contamination in soil on and adjacent to the property. Releases of PCBs likely occurred on the former SAK property during its operation as a junkyard. Further, active rail



yard activities including the accidental release of PCBs resulting from transportation of transformers on the property adjacent to the former SAK property have been reported.

#### 1.5.2 RTN 3-29395

MassDEP issued a Notice of Responsibility (NOR) letter, dated 23 July 2010 to the Former Energy International, Inc. disposal site ("subject site") and lists the McCourt-Broderick Limited Partnership (McCourt) as the potentially responsible party (PRP) and owner of the former Energy International, Inc. property. This NOR letter assigned RTN 3-29395 to the Former Energy International, Inc. disposal site ("subject site"). The NOR stated that response actions are necessary at the subject site (RTN 3-29395) to achieve a Response Action Outcome (RAO) Statement, the endpoint in the MCP regulatory process. The July 2010 NOR letter also stated the assessment should characterize all contaminants of concern (COC) at the subject site, including PCBs, heavy metals, polynuclear aromatic hydrocarbons (PAHs), and petroleum hydrocarbons.

Haley & Aldrich completed a limited soil and groundwater sampling program during the period December 2010 to January 2011. The testing program included the analysis of twenty-seven soil samples for chemical analysis of one or more of the following parameters: volatile organic compounds (VOCs); semi-volatile organic compounds (SVOCs); extractable petroleum hydrocarbons (EPH); volatile petroleum hydrocarbons (VPH); metals; TCLP Lead; and waste characteristics. During this same time period, an additional fifty-four soil samples were analyzed for chemical analysis of PCBs. Compounds of concern detected in soil at the Site are VOCs, SVOCs (including polycyclic aromatic hydrocarbons (PAHs)), EPH, VPH, metals, and Aroclor 1254 and Aroclor 1260.

## 1.6 Previous EPA Correspondence

Based on Haley & Aldrich telephone discussions and a meeting with Kim Tisa, EPA Region 1 - PCB Coordinator, on 4 May 2011 and 8 December 2011, respectively, it was concluded that the Site would be subject to EPA TSCA regulations based on the following rationale: the Site and Site vicinity has a history of release(s) of PCBs; chemical results approaching PCB concentrations of 50 ppm in soil during the December 2010/January 2011 testing program (described below); the date of the fire and documented PCB release at the Site occurred after 1978; and the original source of PCBs at the Site were potentially present at concentrations greater than 50 ppm. Accordingly, a Self-Implementing PCB Clean-up and Disposal Plan (SIP) pursuant to TSCA requirements at 40 CFR 761.61(a)(3) and 761.3 is being submitted herein to allow for the clean-up and off-site disposal of TSCA-regulated soil at the Site.

Based on the 8 December meeting with Kim Tisa, it was recommended that additional sampling and testing for PCBs be conducted at areas of the Site which detected PCBs at levels exceeding 1 mg/kg since the Site is subject to TSCA regulations. Specifically, additional data was required at depths of 0 to 0.5 ft, 1 to 2 ft and 2 to 3 ft below ground surface to evaluate PCB impact in near surface soils. As a result, a subsequent subsurface exploration and chemical testing program was completed at the Site during March 2012. As discussed in the SIP, herein, the data collected at the Site to date confirms the results of the previous remediation work and remedial goal of 2 ppm (remedial goal previously adopted for the South Boston Haul Road Central Artery/Tunnel project). Historical confirmatory soil data developed from the 1992 MassHighway cleanup program are presented on Figure 3 and in Table I. Based on review of the 1992 confirmatory test results and test results obtained during our December 2010 to January 2011 testing program PCB concentrations were detected at levels below 1 ppm in the



previously remediated area, with one exception. At test boring HA104, PCBs were detected at a concentration of 1.84 ppm in soil collected at a depth of 0-2 ft below existing ground surface.

# 1.7 Anticipated Future Property Use

The Site is currently unoccupied. Future property use has not been determined at this time but will likely remain as commercial or industrial use.

## 1.8 Limitations

This SIP was prepared by Haley & Aldrich in accordance with our Memorandum to McCourt-Broderick Limited Partnership c/o The McCourt Company, Inc. (McCourt) dated 15 June 2012 (Proposal). The SIP was prepared for the exclusive use of McCourt, the MassDEP and the EPA in connection with the subject Former Energy International Inc. project. There are no intended beneficiaries other than McCourt, the MassDEP and the EPA.

Haley & Aldrich shall owe no duty whatsoever to any other person or entity on account of the Proposal or the SIP. Use of this SIP by any person or entity other than McCourt, the MassDEP and the EPA for any purpose whatsoever without the express written authorization of McCourt and Haley & Aldrich shall be at such other person's or entity's sole risk, and shall be without legal exposure or liability to McCourt or Haley & Aldrich, Inc.



#### 2. SITE CHARACTERIZATION

## 2.1 Subsurface Exploration Programs

Several subsurface explorations have been conducted at the Site by Haley & Aldrich and others to characterize the nature and extent of contamination and to classify the soils for potential off-site disposition. Details regarding the subsurface exploration programs are provided below. The locations of the test borings and observation wells pertinent to the TSCA regulated areas are shown on Figure 2 and Figure 3.

## 2.1.1 Central Artery Project - Massachusetts Highway Department (Prior to 1992)

Limited subsurface testing indicated that PCB contamination was present at the Site, the majority of which was remediated prior to the 1992 construction of the adjacent South Boston Haul Road (currently South Boston Bypass Road). Soil remediation was performed under the Central Artery (I-93/Tunnel (I-90)) Project on behalf of the Massachusetts Highway Department in preparation of the South Boston Bypass Road. Remediation consisted of the excavation and replacement of approximately 5,200 tons (within and beyond the limits of the subject site) of PCB-impacted (>2mg/kg) surficial soils as documented in the Camp Dresser and McKee (CDM) report entitled: "Summary Documentation Report for the Close-Out of PCB Remediation Site, South Boston Haul Road, Central Artery/Tunnel Project, Volumes 1&2," dated February 1993. The CDM report further indicated that an isolated area, consisting of approximately 175 cubic yards (cy) of PCB-impacted soil, potentially remained at the Boston Haul Road Site (Note: exact location not defined) (See Figure 3 for limits of the previous CDM excavation activities).

Historical soil quality data collected from the Site and vicinity is presented in Table I. According to the above referenced CDM Report, the soil samples presented in Table I are representative of post excavation confirmatory soil quality data remaining at the remediation limits.

## 2.1.2 Haley & Aldrich, Inc. Soil Sampling (November and December 2010)

As previously discussed, the MassDEP July 2010 NOR letter assigned RTN 3-29395 to the Former Energy International, Inc. disposal site ("Site") and lists the McCourt-Broderick Limited Partnership (McCourt) as the potentially responsible party (PRP) and owner of the former Energy International, Inc. property. The NOR requested that additional response actions are necessary and should characterize all contaminants of concern (COC) at the subject site. As a result, the following response actions described below were completed at the Site as part of MCP activities.

Soil samples were obtained from thirteen (13) Geoprobe borings conducted during the period 29 November 2010 to 2 December 2010 by Geologic-Earth Exploration, Inc. at the approximate locations shown on Figure 2. Borings were advanced via a Geoprobe to depths ranging from 16 to 20 ft with generally continuous soil sampling through the fill material. Observation wells were installed in three of the borehole locations to obtain information on the groundwater quality beneath the Site. Geoprobe boring reports are provided in Appendix B. Groundwater Observation Well Installation reports are provided in Appendix C.



The Geoprobe borings encountered fill overlying naturally deposited organic and marine deposits. Fill material is generally described as poorly graded sand with gravel, sandy silt, cinders, ash, brick-fragments, clinkers and coal fragments. The thickness of the fill ranged from 12.2 to 19.5 ft. Depth to groundwater in the monitoring wells during January 2011 ranged from approximately 10 to 14 ft below ground surface.

From the period of 29 November 2010 to 2 December 2010, Haley & Aldrich prepared and submitted twenty-seven soil samples to Accutest Laboratories for chemical analysis of one or more of the following parameters: volatile organic compounds (VOCs); semi-volatile organic compounds (SVOCs); extractable petroleum hydrocarbons (EPH); volatile petroleum hydrocarbons (VPH); 8 RCRA metals; TCLP lead; and waste characteristics. During this same time period, an additional fifty-four soil samples were submitted to Accutest Laboratories for chemical analysis of PCBs.

A minimum of three composite soil samples were collected from each of the Geoprobe borings for PCB analysis. Composite soil samples were collected at depths of 0 to 2 ft below ground surface to evaluate near surface impacts and at depths of 2 to 4 ft and 6 to 8 ft below ground surface to evaluate the vertical extent of PCB impact. Additionally, five composite soil samples were collected from test borings HA111, HA112, and HA113 at depths ranging from 8 to 18 ft below ground surface. Additional soil sampling for PCBs was conducted at test borings HA111, HA112 and HA113 at the easternmost potion of the property.

One composite soil sample was collected from each of the Geoprobe borings at a depth of 0 to 4 ft to evaluate near surface soil impacts for VOCs, PAHs, metals, and petroleum hydrocarbons. An additional one to two soil samples were also collected from each of the Geoprobe borings at depths ranging from 4 to 13 ft and from 12 to 18 ft to characterize the vertical extent of impact. Three composite soil samples (HA111 (16 to 18 ft), HA112, (16.5 to 18 ft) and HA113 (15.5 to 18 ft)) were collected from the natural organic deposits to evaluate the potential vertical impact of PCBs at the site.

Results are summarized in Table II and laboratory analytical reports are provided electronically (CD) in Appendix D.

## 2.1.3 Haley & Aldrich, Inc. Groundwater Sampling (January 2011) – Phase 1

Haley & Aldrich collected one groundwater sample from monitoring well HA103 (OW) on 6 January 2011. Prior to the collection of the groundwater sample, the monitoring well was developed and the depth to groundwater was measured using a water level indicator. An attempt was made to collect additional groundwater samples from monitoring wells HA106 (OW) and HA111 (OW) on 6 January 2011; however, no water samples could be collected due to the slow recharge of water into these wells and the limited volume of standing water in the well. As a result, no water samples were collected from monitoring wells HA106 (OW) and HA111 (OW). Groundwater samples were collected from monitoring HA103 (OW) well using EPA low flow techniques. Groundwater samples were submitted to Alpha Analytical for analysis for the following: VOCs; EPH; 8 RCRA metals; and PCBs.

Depth to groundwater at the subject site ranged from 10.14 ft (El 4.18) below ground surface at HA111 (OW) to 13.7 ft (El 0.4) below ground surface at well HA103 (OW) during January



2011. Elevations are in feet and are referenced to Boston City Base (BCB). Depth to groundwater measurements and corresponding groundwater elevation data are presented in Table III. Based on the 6 January 2011 groundwater and corresponding elevation data, groundwater at the property flows to the west.

## 2.1.4 Supplemental Haley & Aldrich, Inc. Soil Sampling (2012) – Phase 2

The objective of the supplemental subsurface exploration and chemical testing program was to further delineate the nature and extent of PCB-impacted soil in the western and eastern areas of the Site which detected PCBs at levels exceeding 1 mg/kg in the non-remediated and previously remediated areas of the property. These areas are also located outside of the previously PCB remediated area as discussed in previous section of this report. Specifically, additional sampling and assessment of PCBs was conducted in the areas of previously completed Geoprobe borings HA103, HA104, HA111, HA112 and HA113 to help identify the volume of soil requiring off-site disposition in order to achieve a Permanent Solution at the Site for unrestricted site use without an Activity and Use Limitation (AUL) and to maintain compliance with EPA TSCA regulations under 40 CFR Part 761.

Soil samples were obtained from eight (8) Geoprobe borings conducted on 2 March 2012 by New Hampshire Boring, Inc. at the approximate locations shown on Figure 2. Borings were advanced via a Geoprobe to a depth of 8 ft with generally continuous soil sampling in the fill material. Geoprobe test boring reports are provided in Appendix B. The Geoprobe borings encountered fill materials generally described as poorly graded sand with gravel, sandy silt, cinders, ash, brick-fragments, clinkers, concrete, wood, and coal fragments.

Three composite soil samples were collected from each of the Geoprobe borings for PCB analysis. Composite soil samples were collected at depths of 0 to 0.5 ft below ground surface to evaluate near surface impacts and at depths of 1 to 2 ft and 2 to 3 ft below ground surface to evaluate the vertical extent of PCB impact. Results are summarized in Table II and laboratory analytical reports are provided electronically (CD) in Appendix D.

## 2.2 Summary of Sampling and Testing Results

Soil and groundwater analytical testing results obtained by Haley & Aldrich are summarized on Tables II and Table III, respectively. Analytical laboratory reports are provided in Appendix D (CD). In summary, results indicated the following:

Phase 1 Soil Results

- A total of 15 out of the 27 soil samples submitted for analysis indicated PAHs levels greater than applicable RCS-1 thresholds. It is believed that the PAHs detected in the soil samples are attributable to the presence of ash, cinders and coal fragments observed in fill materials. In accordance with 310 CMR 40.0317(9), releases of oil or hazardous materials related to coal, coal ash, or wood ash may be considered exempt and do not require notification to MassDEP.
- Two of the 27 soil samples indicated EPH and/or VPH compounds greater than RCS-1 thresholds. At HA102 (0 to 4 ft), C9 to C10 aromatics were detected at a level of 194 mg/kg which exceeds the RCS-1 threshold of 100 mg/kg. At HA109 (0 to 4 ft), C11 to



C22 aromatics were detected at a level of 113 mg/kg, which slightly exceed the RCS-1 of 100 mg/kg.

- A total of 5 out of the 27 soil samples indicated concentrations of one or more of the following metals (antimony, arsenic, cadmium, chromium, lead and nickel) greater than RCS-1 thresholds.
- Only 2 out of the 54 soil samples submitted for chemical analysis indicated PCB concentrations greater than applicable RCS-1 thresholds (2 mg/kg). A total of 3 out of the 54 soil samples detected levels of PCBs greater than 1 mg/kg. These RCS-1 exceedances were detected in the near surface soil samples. At HA111 (0 to 2 ft), PCB Aroclor 1254 and Aroclor 1260 were detected at levels of 4.5 and 6 mg/kg respectively. At HA113 (0-2 ft) PCB Aroclor 1254 and Aroclor 1260 were detected at levels of 3.3 and 13 mg/kg respectively. No PCBs were detected above the MCP Upper Concentration Limit (UCL) for PCBs which is 100 mg/kg. In addition, no PCBs were detected in three composite soil samples collected from the organic deposits present beneath the fill materials at the site.

#### Phase 2 Soil Test Results

- At the western portion of the Site, identified as Area of Concern (AOC) West, no PCBs were detected above 1 mg/kg in Geoprobe borings HA201 through HA203 at depths of 0 to 0.5 ft, 1-2 ft, and 2-3 ft. As a result, Geoprobe borings HA201and HA203 define the south and north extent of the PCB-impacted area (PCB concentration < 1 mg/kg), respectively. Geoprobe boring HA202, located between previously completed Goeprobe borings HA103 and HA104 also detected PCB concentration levels less than 1 mg/kg.
- At the eastern portion of the Site, identified as Area of Concern (AOC) East, at Geoprobe boring locations HA205 and HA208, PCBs were detected in the upper sample depth (0 to 0.5 ft) at concentration levels of 16.6 and 38.5 mg/kg, respectively. Geoprobe boring HA204 defines the southern extent of the PCB-impacted area (PCB concentration < 1 mg/kg). The western extent of AOC West is defined by borings HA109, HR-18, HA110, and HR-16, indicated as shown on Figure 3.

The presence of PCBs present at the Site is likely associated with the historic use of the property as a junkyard, in particular the presence of Boston Edison Company electrical equipment, and/or railroad and transit operations. Firefighting activities are believed to have also contributed to the PCB and associated TPH and metals migration across the Subject Disposal Site. PCB are common to a wide variety of every-day industrial uses and manufactured products – e.g. inks, dyes, carbon-less carbon paper, tar paper, coatings, paints, plastics, adhesives, lubricants, floor tile, cinder blocks, roofing tar, insulation, and electrical equipment. PCB Aroclors 1254 and 1260 which were detected at the subject Site are typical aroclors associated with dielectric fluid used in transformers. PCB also appears to be associated with fill materials. For example, the PCB concentrations and depth profile in Geoprobe borings HA103 and HA105 are not indicative of surface deposition; PCBs were not detected in the surficial soil samples collected at 0 to 2 ft, but were detected at deeper sample depths of 2 to 4 ft as indicated in Table II. Review of the MassDEP database indicates that multiple



aroclors including 1016, 1242, 1248, 1254 and 1260 have been detected on surrounding properties near the subject Disposal Site.

## Groundwater Results

No RCGW-2 exceedances were detected in any of the groundwater samples and as a result, groundwater is not considered to be part of the Disposal Site, RTN 3- 29395 under the MCP as indicated in Table III. The laboratory data reports are included in Appendix D.



## 2.3 Geologic Site Characteristics

#### 2.3.1 Subsurface Soil and Bedrock Conditions

This section summarizes subsurface soil and bedrock conditions encountered at the Site during the exploration programs as indicated above. Soil stratigraphy is described as follows, in order of general occurrence from existing grades downward.

- Miscellaneous Fill
- Organics
- Estuarine
- Marine Clay
- Glacial Till
- Bedrock

This area was created by various stages of filling conducted between the mid-to-late 1880s through 1900. Material used to fill the Disposal Site consists of granular fill, miscellaneous urban fill, organic fill, and cohesive fill. This combined unit varies in thickness across the Disposal Site from approximately 10 to 15 ft. In general, miscellaneous urban and granular fills overlie organic and cohesive fills. While the miscellaneous urban and granular fills were likely placed in graded lifts, the organic and cohesive fills appear to have been placed hydraulically, and are highly chaotic in their stratigraphic nature. Obstructions encountered in fill material consist of cobbles, boulders, railroad rails, ties, and ballast, construction debris, utilities and/or granite blocks. Units encountered beneath the fill include, from upper to lowermost, organic, estuarine, marine clay, glaciomarine, glaciofluvial, glaciolacustrine, till, and bedrock units.

#### 2.3.2 Groundwater Conditions

Based on field measurements conducted in 2010 and 2011, groundwater was commonly encountered at a depth of 10.4 ft (El.4.18) bgs to 13.7 ft (El.0.4) bgs. No Reportable Concentration RCGW-2 exceedances were detected in any of the groundwater samples and as a result, groundwater is not considered to be impacted.



#### 3. APPLICABILITY AND NOTIFICATION UNDER 40 CFR 761

Based on the concentrations of PCBs detected in soil and as explained below, the Site is being addressed based on the conclusion that it is subject to regulation under 40 CFR 761.

The PCB-contaminated soil at the Site is classified as *PCB remediation waste*. According to 40 CFR 761.3, *PCB remediation waste* means waste containing PCBs as a result of a spill, release, or other unauthorized disposal, at the following concentrations:

- materials disposed of prior to April 18, 1978, that are currently at concentrations ≥050 ppm [parts per million] PCBs, regardless of the concentration of the original spill;
- materials which are currently at any volume or concentration where the original source was ≥1500 ppm PCBs beginning on April 18, 1978, or 1≥150 ppm PCBs beginning on July 2, 1979; and
- materials which are currently at *any* concentration if the PCBs are spilled or released from a source not authorized for use under this part [emphasis added].

*PCB remediation waste* means soil, rags, and other debris generated as a result of any PCB spill cleanup, including, but not limited to: (1) environmental media containing PCBs, such as soil and gravel; dredged materials, such as sediments, settled sediment fines, and aqueous decantate from sediment.

Based on previous communications between EPA, the Site is being addressed based on the conclusion that it is subject to regulation under 40 CFR 761.

This document serves as the "notification" required by 40 CFR 761.61(a)(3). The nature and extent of contamination and sampling procedures are summarized below.

#### 3.1 Nature of Contamination

Based on the to-date information from various file reviews and site characterization data, PCBs and other chemical constituents (PAHs, petroleum hydrocarbons, metals and, to a lesser extent, VOCs) detected in soil appear to have originated from miscellaneous filling at the Site and former use as a rail yard. Potential sources of PCBs detected in soil at the Site may also attributable to former use of the Site by Boston Junk/SAC. Records indicated that Boston Junk commonly purchased large numbers of electrical items including transformers, capacitors, wire, cable, and lead coated cable, from Boston Edison Company. Firefighting activities are believed to have also contributed to the PCB and associated TPH and metals migration across the Boston Junk/SAK disposal site.

Review of available reports and Sanborn Maps indicate that Boston Junk/SAK Recycling Corporation activities were primarily limited to the area east of New Cypher Street and it is not known how much activity associated with the Boston Junk/SAK Recycling Corporation occurred at the subject Disposal Site, RTN 3-29395. Sanborn Maps do not indicate any buildings to have existed on the subject Site. Historically, the Site was utilized as a rail yard by the New York, New Haven, and Hartford Railroad (NHRR), prior to the purchase of the NHRR by Penn Central railroad. Review of Sanborn Maps dated from the period 1888 through 1988 indicates that the Site was occupied by numerous railroad tracks.



The horizontal limits of the Site are defined as shown on Figure 2, while the vertical limits extend from ground surface to approximately 2 ft below ground surface (bgs) at the eastern portion of the Site and at a depth of 4 ft bgs at the western portion of the Site. Figure 3 illustrates the distribution of total PCB concentrations detected in each soil sample obtained within the TSCA characterization area.

No RCGW-2 exceedances were detected in any of the groundwater samples and as a result, groundwater is not considered to be impacted or part of the Disposal Site, RTN 3-29395.

## 3.2 TSCA Characterization Sampling Procedures

As discussed in Sections 2.1 and 2.2 above, during December 2010 and January 2011, a comprehensive TSCA soil characterization program was conducted within the portion of the Site found to have been impacted by PCBs based on previous subsurface investigations conducted by Haley & Aldrich and other (herein referred to as "the TSCA characterization area"). The comprehensive TSCA soil characterization program was designed with modifications to the TSCA Self-Implementing prescribed sampling frequency, as allowed by 40 CFR 761.61(a), in consideration of the previously documented PCB soil remediation program undertaken by CDM in 1992 as part of the Central Artery (I-93/Tunnel (I-90)) Project on behalf of the Massachusetts Highway Department in preparation of the South Boston Bypass Road, as described in Section 1.4 and the distribution of PCBs detections mainly in the upper 2 ft of soil.

The TSCA characterization was initially developed based on historical data obtained at the Site. Based on our review of the existing data and the Site status, the following rationale for the PCB characterization program was undertaken to evaluate whether further characterization under TSCA was required:

- During December 2010 and January 2011, PCB data was collected on a 40 x 40 ft grid across the entire Site to evaluate PCB concentrations and the presence of other contaminants under the MCP. Composite soil samples were submitted for PCB analysis at depths of 0-2 ft. 2-4 ft, and 6-8 ft below ground surface. Additional soil sampling for PCBs was conducted at test borings HA111, HA112 and HA113 at the easternmost potion of the property at the AOC West area.
- Correspondence and a meeting with Ms. Kim Tisa of the EPA was conducted during 4 May 2011 and 8 December 2011 to discuss conducting additional sampling and testing for PCBs at areas of the Site which detected PCBs at levels exceeding 1 mg/kg. It was determined that a typical 15x15 ft grid PCB sampling program would not be required based on results of the previous testing programs and confirmatory PCB sampling conducted subsequent to the PCB remediation program conducted in 1992. Accordingly, additional data was collected from eight additional borings completed within 15 ft of the previous test borings which indicated PCB concentrations greater than 1 mg/kg. PCB samples were collected at depths of 0 to 0.5 ft, 1 to 2 ft and 2 to 3 ft below ground surface to evaluate PCB impact in near surface soils. We concluded that the data collected at the Site to date confirms the results of the previous remediation work and remedial goal of 2 ppm (remedial goal previously adopted for the South Boston Haul Road Central Artery/Tunnel project). Historical confirmatory soil data developed from the 1992 MassHighway cleanup program are presented on Figure 3 and in Table I.
- Soil samples were collected at 2 ft intervals at depths greater than 8 ft if any of the upper soil samples collected from the Geoprobe borings detected any PCB concentration levels greater than the laboratory detection limit.



• The TSCA soil characterization program was conducted to fill in data gaps from previous site investigations. The investigations were based on our review of the existing data, and assumptions that additional data would indicate that the concentrations and distribution of PCBs are generally consistent with what was previously documented.

## 3.3 TSCA-Regulated Area

Based on the historical data and the results of the recent TSCA characterization program, the TSCA-regulated area generally consists of an approximately 4,775 sq ft area in the eastern and western corners of the site:

- AOC-EAST: approximately 3,100 sq ft; extending up to 2 ft in depth (greater than 1 mg/kg PCBs), no levels exceeded 46.8 mg/kg;
- AOC-WEST-A: approximately 1,300 sq ft; extending up to 2 ft in depth (greater than 1 mg/kg PCBs), no levels exceeded 1.84 mg/kg; and
- AOC-WEST-B: approximately 375 sq ft; extending up to 4 ft in depth (greater than 1 mg/kg PCBs), no levels exceeded 1.28 mg/kg.

The limits of the TSCA-regulated area are shown on Figure 4.

#### 3.4 Location and Extent of Contamination

#### 3.4.1 Soil

During the Haley & Aldrich iterations of sampling, a total of 77 soil samples collected from the subject site have been submitted for chemical analysis for PCBs. The results of the laboratory data indicate that PCBs were not detected above laboratory detection limits ranging from approximately 0.04 to of 0.16 mg/kg. Additionally, of the detected PCB levels, PCBs were detected at concentrations less than 1 mg/kg in 28% of the samples. Overall, PCBs were either not detected or were detected at less than 1 mg/kg in approximately 87% of the 79 total samples collected. The chart below shows the breakdown of PCB concentrations detected in soil samples collected during the Haley & Aldrich investigations:

Total Samples:	79
Total Non-Detect:	47
Total Detect, ≤1:	22
Total Detect, $> 1 \& \le 10$ :	7
Total Detect, $> 10 \& \le 50$ :	4
Total Detect, $> 50 \& \le 100$ :	0
Total Detect, >100:	0



The chart below shows the breakdown of PCB concentrations historically detected in confirmatory soil samples collected at the Site and in the immediate Site vicinity during the Central Artery (I-93/Tunnel (I-90)) Project on behalf of the Massachusetts Highway Department.

Total Samples:	15
Total Non-Detect:	9
Total Detect, ≤1:	4
Total Detect, $> 1 \& \le 10$ :	2*
Total Detect, $> 10 \& \le 50$ :	0
Total Detect, $> 50 \& \le 100$ :	0
Total Detect, >100:	0

<sup>\*</sup>Note that the two confirmatory soil samples collected by CDM, designated as HR-5 and HR-9 detected PCB concentrations greater than 1 mg/kg are located outside of the Site on an adjacent property

Figures 3 illustrate the distribution of PCBs both laterally and vertically at the Site.

Historical and recent PCB testing indicates the following:

- PCB contamination is primarily concentrated in the shallow fill material in the eastern corner of the subject site, adjacent to an apparent scrap yard (AOC-EAST). Where detected, PCBs are generally limited to the upper 2 ft of soil with detections ranging from 0.18 mg/kg (HA204) to 46.8 mg/kg (HA113).
- Minor concentrations of PCB contamination in the shallow fill material exist in the western corner of the subject site (AOC-WEST). Where detected, PCBs are generally limited to the upper 4 ft of soil with detections ranging from 0.22 mg/kg (HA201) to 1.84 mg/kg (HA104).
- Where detected, PCBs are generally limited to the top 4 ft, or less of soil. PCBs were not detected above 1 mg/kg at depths greater than 4 ft bgs.
- Outside the TSCA-regulated area within the soil remediation area within the property limits, PCBs were not detected above detection limits or were detected at concentrations less than 1 mg/kg.

A summary of historical and recent PCB data is provided in Table I and Table II, respectively. Copies of the laboratory data reports are included in Appendix D.

#### 3.4.2 Groundwater

As discussed in Section 2.1.3 above, one groundwater sample was collected in January 2011 from observation well HA103 (OW) installed at the Site in 2010 and submitted for laboratory analysis for VOCs, EPH, dissolved metals and PCBs. Groundwater analytical data indicated that all VOCs, EPH, dissolved metals compounds were below applicable MassDEP Reportable Concentrations RCGW-2 criteria. Additionally, all PCBs were below applicable detection limits. The location of the observation well HA103 (OW) is shown on Figure 2. A summary of



groundwater quality data is provided in Table III, and copies of the laboratory data reports are included in Appendix D.



# 4. SELF-IMPLEMENTING CLEANUP AND DISPOSAL OF PCB REMEDIATION WASTE

This section presents a cleanup plan for the TSCA-regulated area. In summary, the cleanup plan involves both excavation and off-site removal of PCB-contaminated soils to achieve the cleanup levels described herein.

## 4.1 Occupancy Areas and Associated Cleanup Levels

The cleanup levels have been determined based on the likely future commercial use of the Site and the bulk PCB remediation waste High and Low Occupancy Area cleanup levels established in 40 CFR 761(a)(4)(i).

## A *High Occupancy Area* is defined by 40 CFR 761.61 as follows:

"any area where PCB remediation waste has been disposed of on-site and where occupancy for any individual not wearing dermal and respiratory protection for a calendar year is: 840 hours or more (an average of 16.8 hours or more per week) for non-porous surfaces and 335 hours or more (an average of 6.7 hours or more per week) for bulk PCB remediation waste."

## High Occupancy Cleanup Levels for bulk PCB remediation waste are as follows:

- ≤1 ppm "without further conditions" (see 40 CFR 761.61(a)).
- > 1 ppm and ≤10 ppm if covered with a cap meeting the requirements of 40 CFR 761.61(a)(7) and a deed restriction is implemented as per 40 CFR 761.61(a)(8).

## Low Occupancy Cleanup Levels for bulk PCB remediation waste are as follows:

- $\leq$  25 mg/kg with an institutional control (see 40 CFR 761.61(a)8).
- >25 mg/kg and ≤ 50 mg/kg if secured by a fence, marked with a sign that indicates that the PCB M<sub>L</sub> mark, and an institutional control (deed restriction) is implemented as per 40 CFR 761.61(a)(8).
- >25 mg/kg and < 100 mg/kg if covered with a cap meeting the requirements of 40 CFR 761.61(a)(7) and a deed restriction is implemented as per 40 CFR 761.61(a)(8).

## 4.2 Remedial Approach

As discussed above, the remedial approach for the Site involves excavation and off-site removal of PCB contaminated soils to High Occupancy Levels without further conditions. Although no future redevelopment plans exist for the property, it is planned to remove PCB-impacted soils and other MCP-related constituents at the Site in order to achieve a Permanent Solution (MCP) and achieve a High Occupancy Cleanup Level (TSCA). Additional information is provided below.

■ AOC-WEST A – All impacted soils above 1 mg/kg PCBs will be removed to a maximum depth of 2 ft below grade surface from this AOC which is located on the western portion of the parcel



which is located within a portion of the previously PCB soil removal and remediation work area performed in 1992 and the railroad tracks and the property boundary so that a TSCA cap does not have to be installed. This AOC would be considered High Occupancy without further conditions. It is not possible to remove the railroad tracks to conduct additional soil removal to the north along South Boston ByPass Road.

- AOC-WEST B All impacted soils above 1 mg/kg PCBs will be removed to a maximum depth of 4.5 ft below grade surface from this AOC which is located on the western portion of the parcel between a portion of the previously PCB soil removal and remediation work area performed in 1992 and the railroad tracks and the property boundary area so that a TSCA cap does not have to be installed. This AOC would be considered High Occupancy without further conditions. It is not possible to remove the railroad tracks to conduct additional soil removal to the north along South Boston ByPass Road.
- AOC-EAST All impacted soils above 1 mg/kg PCBs will be removed to a maximum depth of 2 ft below grade surface from this AOC which is located on the eastern portion of the parcel between the area the previously PCB soil removal and remediation work area performed in 1992 and the property boundary so that a so that a TSCA cap does not have to be installed. This AOC would be considered High Occupancy without further conditions.

As discussed above and in previous sections of this Report, the remedial approach involves the excavation and off-site disposal of PCB-impacted sols to a cleanup level of 1 mg/kg or less to allow for High Occupancy Use without further conditions, or an Activity and Use Limitation 9AUL) under the MCP. Subsequent to removal of PCB-impacted soils, the excavated areas will be backfilled with "clean borrow material."

## 4.2.1 Site Logistics and Equipment Decontamination

Prior to the start of excavation work, the Contractor will restrict access to the TSCA regulated areas by establishing and maintaining an Exclusion Zone, a Contamination Reduction Zone (area where truck washing and decontamination stations will be constructed and utilized), and a Support Zone as follows:

- Remedial activities within the Exclusion and Contamination Reduction Zones will be undertaken by 40-hour OSHA HAZWOPER trained contractors. The contractor will prepare and comply with a site-specific health and safety plan (HASP). The HASP will contain health and safety policies and procedures to complete the work described in this Self-Implementing Plan and comply with OSHA, NIOSH, local, state, and federal requirements.
- The Exclusion Zone will encompass the TSCA regulated areas, and personnel entering the Exclusion and Contamination Reduction Zones will have proper training certification and personal protective equipment, as required by the Contractor's HASP.
- It is anticipated that flexible panel fencing will be erected to visibly identify the work zone perimeters. The panel fencing shall be removed upon completion of remedial activities within the TSCA regulated areas. Management and decontamination/disposal of fencing will vary depending upon whether the fencing was in contact with PCB



contaminated soils. Fencing in contact with PCB-contaminated soils will be managed in accordance with 40 CFR 761.

- Movement of personnel and equipment on to the Site and between the zones will be strictly regulated through access control points. Trucks and other vehicles entering the TSCA regulated areas will be routed through service entrance and exit areas, as shown on Figure 5.
- The Contractor will install a wheel wash at each location in the Contamination Reduction Zone where construction vehicles access and depart. Each truck leaving the Site will have its wheels washed and cleaned of debris at the decontamination stations located in the Contamination Reduction Zone. Decontamination of trucks leaving the TSCA regulated areas shall be conducted in accordance with TSCA 40 CFR 761.79.
- Trucks hauling soils to off-Site receiving facilities will be loaded in the Exclusion Zone. Loaded trucks will be covered with tight fitting covers, which will be securely fastened prior to leaving the Site. Additionally, each load leaving the Site will require documentation including copies of waste manifests, bills of lading, and vehicle license-plate number.
- Figure 5 (Site Logistics Plan) depicts the locations of the zones and the access and egress routes.

#### 4.2.2 Soil Excavation

The treatment, excavation, and management of soil and groundwater will be conducted in accordance with the MCP and the requirements of TSCA. Haley & Aldrich will observe and document the work on a full-time basis, and will provide the Contractor with guidance relative to the requirements outlined in this Self-Implementing Plan.

#### 4.2.2.1 Excavation Support

Depending on the conditions encountered, the excavation support system for the proposed remediation along the property line is anticipated to consist of steel plates or a trench box. The excavation and removal of the majority of historic fill within the sheeting limits will be required to support the proposed remediation.

## 4.2.2.2 Sequence of Excavation and Related Activities

The contractor will excavate soils within the TSCA-regulated areas that are necessary to meet the cleanup goals outlined herein. The Remediation Contractor will determine the layout of the lateral excavation grids using GPS or survey equipment, and will conducted engineering level surveys as excavation proceeds vertically. Where possible, the Contractor will initiate excavation within the highest PCB concentration areas and then move to a less concentration areas to avoid cross-contamination. The Remediation Contractor will carefully plan logistics to provide for excavating and loading in close proximity.



#### 4.2.2.3 Vertical Excavation Limits

The depths of the excavations are limited to depths of 4.5 ft below ground surface as described below. Precharacterization data indicate that PCB-impacted soils, soils with PCB concentration levels >1 mg/kg were only detected in the upper 2 ft of soils, with one exception. At Geoprobe boring, HA103(OW), PCB was Sampling PCB impacted soils will generally be excavated to the depth where PCBs were not detected above 1 mg/kg which range from 2 ft to 4.5 ft bgs; excavation depths are shown on Figure 4.

Soils will be excavated to a depth equal to the base of the deepest interval where PCBs were detected at concentrations greater or equal to 1 mg/kg in both AOC-EAST, AOC-West A and AOC-WEST B. These soils will be disposed of offsite as less than 50 mg/kg PCB remediation waste.

#### 4.2.2.4 Lateral Excavation Limits

Lateral extents of excavation for construction are beyond the limits of PCB detections (Refer to Figure 4). In AOC-WEST A and AOC West B all of the precharacterization samples are below 10 mg/kg PCBs and the final limit of the excavation will generally be defined by the excavation and removal of PCB impacted soil until achieving the remedial goal where PCBs are not detected or not detected at concentrations greater than or equal to 1 mg/kg. Excavations will extend to a maximum depth of approximately 4.5 ft bgs in AOC-WEST B and 2 ft at AOC WEST A.

In AOC-EAST precharacterization samples range from non-detect to 46.8 mg/kg PCBs and the final limit of the excavation will generally be defined by the excavation and removal of PCB impacted soil until achieving the remedial goal where PCBs are not detected or not detected at concentrations greater than or equal to 1 mg/kg. Excavations will extend to a maximum depth of approximately 2 ft bgs in AOC-EAST.

Following the soil excavation activities, the goal is that the parcel will be suitable for High Occupancy use with no further restrictions.

## 4.2.3 Soil Management and Off-Site Disposition

Off-site disposition of soils will be based on characterization data obtained from the multiple sampling programs established during the TSCA characterization program as follows:

Analytical data indicated that Site soils contain concentrations of PCBs which are less than 50 ppm and will be transported to a RCRA Subtitle D landfill (Waste Management TREE in Rochester, New Hampshire) or (if approved) to ESMI in Loudon, New Hampshire. Other RCRA Subtitle D landfill or permitted treatment facilities may also be considered; if so, they will be provided to EPA for approval.

The remedial plan includes direct loading of excavated soils. However, if necessary due to Site logistics and scheduling, TSCA regulated soils may be stockpiled within the Exclusion Zone. In the event soil needs to be stored on-Site prior to transportation and disposal, it will either be stored in lined roll-off containers or placed on and covered with double-lined polyethylene sheeting to prevent water intrusion into the stockpile. Soil stockpiles will be surrounded by silt



fence or hay bales to prevent migration of PCB-contaminated soil. Haley & Aldrich will conduct supplemental on-site testing, if necessary.

If direct-loaded soil is too wet for transport, the Contractor will be required to take measures to stabilize the soil, using methods such as applying lime. Note that it is anticipated that all of the excavation activities will occur above the water table, it is not likely that the Remediation Contractor will need to stabilize wet soils prior to loading. However, if soil stabilization due to water content is required, we will confer with the EPA regarding the Remediation Contractor's means and methods prior to implementing stabilization techniques related to water content.

All operators and trucks will have proper Department of Transportation certifications and vehicle inspection certifications. Trucks transporting PCB-contaminated soils off-site to an EPA-approved facility are anticipated to enter the Site from construction entrances situated along the intersection of Cypher Street and South Boston Haul Road.

The Remediation Contractor has proposed to transport soils with PCBs less than 50ppm to Turnkey Recycling and Environmental Enterprises ("TREE"), a RCRA Subtitle D facility in Rochester, NH. We understand that, pursuant to 40 CFR 761.61, EPA approval is required for use of that facility for soils containing PCBs less than 50ppm. We understand that EPA approval of this SIP also provides approval for transport of soils with PCBs less than 50 ppm to TREE.

## 4.2.4 Equipment Decontamination and Dust Suppression

During excavation of soils with concentrations of PCBs less than 50 ppm the excavator bucket will be decontaminated in accordance with TSCA 40 CFR Ch. 1 §761.79. Wastewater from decontamination procedures within the TSCA area will be collected and managed as described below.

The action level for employment of dust suppression techniques is the presence of visible dust. If visible dust is observed during remedial excavation activities, the Contractor will employ dust control measures to limit airborne dust. Additionally, the Contractor will monitor dust levels within the TSCA Work Zone using portable dust meters.

Fence line monitoring will be conducted along South Boston Bypass Road and Cypher Street during soil removal activities. The fence line action level will be established at 100 ug/m³ above background conditions in accordance with EPA National Ambient Air Quality Standards that MassDEP has adopted. In the event this action level is exceeded, more stringent dust control measures will be implemented by the Contractor.

#### 4.2.5 Decontamination and On-Site Reuse of Concrete and Nonporous Materials

Although not encountered during the Geoprobe test boring programs and not anticipated to be present beneath the Site, concrete debris, if excavated within the limits of the TSCA regulated areas will be segregated and stockpiled within the TSCA regulated areas. The concrete debris will be washed to remove loose soil, and samples of the concrete will be collected and submitted to a laboratory for analysis for PCBs using manual soxhlet extraction and EPA Method 8082. Sample collection will be conducted by drilling into the surface of representative portions of the concrete that were in contact with soils. Concrete will be segregated during



excavation and stockpiled in separate areas. Concrete with visual evidence of contamination, such as oil staining, will be stockpiled and evaluated separately.

The concrete stockpiles will be sampled and tested separately from each other to evaluate suitability for on-site reuse. The stockpiles will be no greater than 250 cy, with one composite sample composed of five subsamples from each pile as described below.

Each composite will consist of five individual samples collected from the surface of the concrete, obtained to ½-inch deep. The samples will be collected using the Region 1, EPA-New England Standard Operating Procedure for sampling concrete in the field. Individual sampling locations will be determined randomly using procedures consistent with the procedures for sampling a conical pile outlined in Subpart R, but modified for a pile with a square bottom.

If large blocks of concrete are removed in one piece and not stockpiled with other pieces, the procedure for sampling a specifically configured pile in Subpart R, modified for a ½-inch sampling depth, will be used to determine individual sample locations and the number of composite samples obtained.

Based on the results of the chemical testing, the concrete may be crushed and reused on-site as backfill. Concrete may be reused if the laboratory testing indicates PCBs are less than or equal to 1 mg/kg. Concrete exhibiting concentrations of PCBs greater than 1 mg/kg will be removed from the Site as TSCA regulated material.

Wastewater from decontamination procedures within the TSCA area will be collected and managed as described in Section 4.5 below.

Nonporous materials (such as granite blocks or boulders) proposed for on-site reuse will be power-washed and sampled in accordance with TSCA Subpart P to confirm efficacy of cleaning. Where the blocks are not in contact with soils containing PCBs above 1ppm, the Remediation Contractor proposes to power-wash the blocks and evaluate the efficacy of cleaning using visual standards prior to reuse or off-site storage/transport of the blocks.

## 4.3 Confirmatory Post-Excavation Soil Sampling

## 4.3.1 Bottom of Excavation Confirmatory Sampling

Bottom of excavation confirmatory samples will be obtained by overlaying a 1.5-meter, two dimensional grid across the excavation. The sampling points shall proceed in every direction to the extent sufficient to result in a two-dimensional grid completely overlaying the sampling area. Confirmatory samples will be collected at each point if the grid falls in the cleanup area. Samples will be analyzed according to the nine-point compositing schemes provided in the procedures outlined in the TSCA Subpart O to evaluate the concentrations of PCBs left in place at the base of the excavation. For excavations shallower than 4 ft. bgs, the sampling process will be conducted by a person standing within the excavation using a hand trowel.

OSHA 29 CFR 1926.650 Subpart P precludes a person from entering a trench deeper than 4 ft bgs without positive support of the excavation sidewalls. However, it would not be practical to install shoring in the separate part of the excavation which will extend to an assumed maximum



depth of 4.5 ft bgs. Therefore, in order to comply with OSHA regulations, it is proposed to collect the confirmatory samples at the bottom of the excavation deeper than 4 ft bgs using a remote sampler. If field conditions preclude the use of a remote sampling, the sampling will be conducted suing a smoothed-edge gradall bucket using the following method:

- 1. The gradall bucket will skim a 3-inch thickness of soil from the bottom of the entire 1.5 meter grid.
- 2. The excavated material will be stockpiled on poly sheeting, and a composite sample will be collected from that stockpile using the procedures outlined in TSCA Subpart R for sampling a conical pile.

If the characterization data directly below the excavation does not meet the cleanup goal, both a discrete sample (from beneath the original characterization boring) and a composite sample will be obtained. The composite sample will be obtained using a remote sampler following modified Subpart O as described above.

The sampling procedures outlined above will be used in AOC-EAST and AOC-WEST (A and B) grids where either:

- 1. Existing characterization data meets the cleanup goal of less than or equal to 1 ppm directly below the soils to be excavated; or
- 2. The base of the excavation will extend at least 2 ft. below the depth at which PCBs were detected above the 1 ppm cleanup goal.

If neither of the two conditions outlined above are met, both a discrete sample (from beneath the original characterization boring) and a composite sample will be obtained. The composite sample will be obtained using a remote sampler following modified Subpart O as described above.

## 4.3.2 Sidewall Sampling

Sidewall sampling will be conducted to confirm the lateral boundaries for soils less than or equal to 1 mg/kg. Samples will be taken using the procedures outlined in TSCA Subpart O, using a similar 1.5 meter grid and nine-point compositing procedure as described above for bottom of excavation sampling to evaluate the concentration of PCBs left in place at the sidewalls of the excavation.

If post-excavation soil testing results indicate that the 1 mg/kg cleanup level has not been attained, further soil excavation and confirmatory sampling will be conducted. In AOC-EAST, if sidewall sampling will be collected from the property limits.

## 4.4 Backfilling

Backfill activity will commence as soon as reasonably practical after the receipt of confirmatory sample results confirming the removal of PCBs greater than 1 mg/kg at AOC-WEST (A and B) and AOC-EAST. The completed excavations will be backfilled with either compacted on-site common or off-site granular fill materials meeting project specifications and containing total PCB concentrations less than 1



mg/kg. Backfill material will be placed in lifts and compacted using vibratory equipment (or equivalent). Finish grade will be brought to the design grades for completion of planned improvements for the area.

## 4.5 Water Management

It is anticipated that water will need to be managed during Site activities, as described below.

## 4.5.1 Construction Dewatering Effluent

The excavation depths are anticipated to generally extend to a depth of 2 ft bgs for a majority of the excavation activities with a localized deeper excavation extending to a depth of approximately 4.5 ft bgs in AOC-WEST. Groundwater at this site was encountered at depths of 10 to 14 ft bgs, and therefore, excavation activities are not anticipated encounter groundwater.

#### 4.5.2 Decontamination Wastewater

The Contractor has several options for management of decontamination wastewater:

- a. Drum independently and transport off-site to an EPA-approved receiving facility.
- b. Recharge wastewater on-site using a treatment system to achieve total PCB concentrations less than 0.5 ug/l.
- c. Discharge treated water off-Site under the NPDES RGP permit, which establishes a maximum daily discharge limit of 0.5 ug/L PCBs as analyzed using EPA Method 608.

#### 4.6 Public Involvement

To date, there has not been public involvement at the Site. However, notification to the Chief Municipal Office and the Board of Health will be conducted prior to the initiation of remedial activities under the Release Abatement Measure (RAM) provisions under 310 CMR 40.0440 as required by the MassDEP.

#### 4.7 Schedule

Work within the TSCA regulated areas of the site will commence as soon as possible following approval of the revised SIP. Excavation of PCB-contaminated soils at the Site and backfilling is currently expected to be completed by Winter 2012/Spring 2013.

## 4.8 Certification of Owner and Party Conducting Cleanup

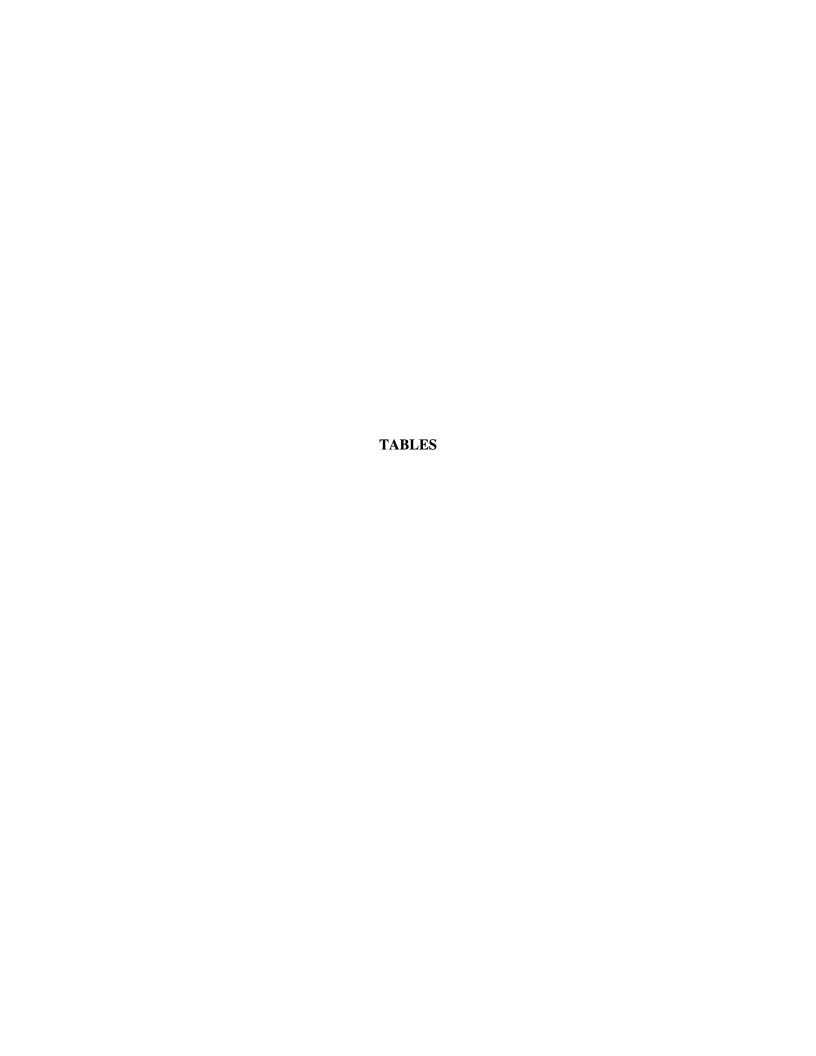
The signed certification required by 40 CFR 761.61(a)(3)(i)(E) is provided in Appendix A.



# 5. CLOSING

Site cleanup will be conducted concurrent in accordance with this Self-Implementing Plan. If conditions are encountered that vary substantially from those anticipated, this plan may be revised to accommodate those conditions. Pursuant to 40 CFR 761.61(a)(3)(ii), EPA will be notified of proposed changes to this plan.





#### TABLE I

SUMMARY OF HISTORICAL SOIL QUALITY DATA MARCH AND APRIL 1992 FORMER ENERGY INTERNATIONAL PARCEL BOSTON, MASSACHUSETTS FILE NO. 06318-502

Client Sample ID:	MassDEP	HR-4	HR-5	HR-6	HR-7	HR-8	HR-9	HR-10	HR-11	HR-12
Sample Location ID:	Reportable	AREA "A"	AREA "A"	AREA "B"	AREA "C"	AREA "C"	AREA "D"	AREA "D2"	AREA "D"	AREA "E"
Sample Location ID:	Concentration									
Sample Depth (ft):		1	1	5.5	2	3	1	3	1	2
Sampling Round	(RCS-1)	Initial	Initial	4th	Initial	2nd	Initial	2nd	Initial	Initial
Polychlorinated Biphenyls (PCBs) (mg/kg)										
Total PCBs	NA	ND	1.8	ND	ND	0.245	1.8	ND	ND	ND

#### **Notes and Abbreviations:**

Only compounds detected on the dates indicated are included in this table.

-: Analysis not conducted.

Bold values indicate an exceedance of the MassDEP Reportable Concentration in Soil (RCS-1).

PCBs analyzyed by SW846 EPA Method 8082

Additional sampling rounds were collected after additional soil was removed during the soil excavation and remediation to confirm remediation was conducted.

This Table only includes the conformatory post-excavation sampling results as provided by CDM.

#### TABLE I

SUMMARY OF HISTORICAL SOIL QUALITY DATA MARCH AND APRIL 1992 FORMER ENERGY INTERNATIONAL PARCEL BOSTON, MASSACHUSETTS FILE NO. 06318-502

Client Sample ID:	MassDEP	HR-13	HR-14	HR-15	HR-16	HR-17	HR-18
Sample Location ID:	Reportable	AREA "E"	AREA "E"	AREA "E"	AREA "E"	AREA "F"	AREA "F"
	Concentration						
Sample Depth (ft):		2	2	2	2	3	3
Sampling Round	(RCS-1)	Initial	Initial	Initial	Initial	Initial	Initial
Polychlorinated Biphenyls (PCBs) (mg/kg)							
Total PCBs	NA	ND	ND	0.53	0.49	ND	1

#### **Notes and Abbreviations:**

Only compounds detected on the dates indicated are included in this

- : Analysis not conducted.

Bold values indicate an exceedance of the MassDEP Reportable Cor

PCBs analyzyed by SW846 EPA Method 8082

Additional sampling rounds were collected after additional soil was re

This Table only includes the conformatory post-excavation sampling

TABLE II
SUMMARY OF SOIL QUALITY DATA
FORMER ENERGY INTERNATIONAL PARCEL
BOSTON, MASSACHUSETTS
FILE NO. 06318-502

Client Sample ID:	MassDEP	HA101_0-2'	HA101_0-4'	HA101_2-4'		HA101_6-8'	HA102_0-2'	HA102_0-4'	HA102_2-4'	HA102_4-8'	HA102_6-8'		HA103_0-4'	HA103_2-4'	HA103_4-8'	HA103_6-8'		HA104_0-2'	HA104_0-4'	HA104_2-4'
Lab Sample ID:	Reportable Concentration	M96288-8	M96289-3 M96289-3A	M96288-9	M96289-4 M96289-4A	M96288-11	M96288-1	M96289-1	M96288-2	M96289-2 M96289-2A	M96288-4	M96256-11	M96257-7 M96257-7A	M96256-12	M96257-8 M96257-8A	M96256-14	M96257-9 M96257-9A	M96256-19	M96257-5 M96257-5A	M96256-20
Sample Depth (ft):		0-2	0-4	2-4	4-8	6-8	0-2	0-4	2-4	4-8	6-8	0-2	0-4	2-4	4-8	6-8	8-12	0-2	0-4	2-4
Date Sampled:	(RCS-1)	12/2/2010	12/2/2010	12/2/2010	12/2/2010	12/2/2010	12/2/2010	12/2/2010	12/2/2010	12/2/2010	12/2/2010	12/1/2010	12/1/2010	12/1/2010	12/1/2010	12/1/2010	12/1/2010	12/1/2010	12/1/2010	12/1/2010
Matrix:		Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill
VOCs (μg/kg)																				
Benzene	2000	_	ND (15)	-	43.6	_	_	ND (13)	-	ND (18.5)	-	_	36	-	80.8	_	ND (13.5)	_	ND (12.5)	-
Naphthalene	4000	_	ND (150)	_	426	_	_	271	_	ND (185)	-	_	267	_	557	_	738	_	ND (115)	-
Toluene	30000	_	ND (150)	_	ND (145)	_	_	ND (130)	_	395	-	_	ND (130)	_	ND (195)	_	ND (135)	_	ND (115)	-
1.2.4-Trimethylbenzene	1000000	_	ND (150)	_	ND (145)	_	_	ND (130)	-	ND (185)	-	_	ND (130)	-	ND (195)	_	ND (135)	_	ND (115)	-
Xylene (total)	300000	-	ND (60)	-	ND (55)	-	-	145	-	ND (75)	-	-	179	-	360	-	ND (55)	-	ND (47)	-
SVOCs (μg/kg)																				
Benzoic acid	1000000	_	ND (280)	-	ND (270)	_	_	ND (280)	-	ND (305)	-	_	ND (275)	-	ND (305)	_	ND (2950)	_	ND (270)	-
3&4-Methylphenol	500000	_	ND (280)	-	ND (270)	_	-	ND (280)	-	ND (305)	-	-	ND (275)	-	ND (305)	_	ND (2950)	_	ND (270)	-
Acenaphthene	4000	_	ND (140)	-	537	_	_	ND (140)	-	2790	-	_	ND (135)	-	383	-	ND (1450)	_	ND (135)	-
Acenaphthylene	1000	_	ND (140)	_	740	_	_	ND (140)	_	ND (155)	-	_	ND (135)	-	564	_	ND (1450)	_	ND (135)	-
Anthracene	1000000	_	712	_	2550	_	_	ND (140)	_	5750	_	_	641	_	1300	_	ND (1450)	_	566	_
Benzo(a)anthracene	7000	_	1400	_	7540	_	_	357	_	7760	_	_	1470	_	2810	_	4110	_	1110	_
Benzo(a)pyrene	2000	_	1100	_	5800	_	_	316	_	5270	_	_	1270	_	2190	_	3210	_	1330	_
Benzo(b)fluoranthene	7000	_	944	_	4340	_	_	296	_	3900	_	_	1330	_	2080	_	ND (1450)	_	1430	_
Benzo(g,h,i)perylene	1000000	_	624	_	2700	_	_	ND (140)	-	2370	-	_	903	-	1440	_	ND (1450)	_	1370	-
Benzo(k)fluoranthene	70000	-	823	-	4240	-	-	ND (140) ND (140)	-	3870	-	-	1020	-	1950	-	ND (1450) ND (1450)	_	1270	-
	70000	-	1490	-	6590	-	-	436	-	7470		-	1520	-	2960	-	4080	_	1450	-
Chrysene		-	ND (140)	-	1450	-	_		-		-	-	347	-		-			458	-
Dibenzo(a,h)anthracene	700	-	` ,	-	571	-	-	ND (140)	-	1190	-	-		-	595	-	ND (1450)	-		-
Dibenzofuran	100000	-	ND (140)	-		-	-	ND (140)	-	1800	-	-	ND (135)	-	494	-	ND (1450)	-	ND (135)	-
bis(2-Ethylhexyl)phthalate	200000	-	ND (140)	-	ND (135)	-	-	ND (140)	-	ND (155)	-	-	ND (135)	-	ND (150)	-	ND (1450)	-	ND (135)	-
Fluoranthene	1000000	-	2730	-	10700	-	-	598	-	18900	-	-	2550	-	4700	-	7980	-	1720	-
Fluorene	1000000	-	ND (140)	-	902	-	-	ND (140)	-	3340	-	-	ND (135)	-	435	-	ND (1450)	-	ND (135)	-
Indeno(1,2,3-cd)pyrene	7000	-	654	-	2900	-	-	ND (140)	-	2380	-	-	934	-	1520	-	ND (1450)	-	1310	-
2-Methylnaphthalene	700	-	ND (140)	-	299	-	-	617	-	1020	-	-	372	-	881	-	ND (1450)	-	ND (135)	-
Naphthalene	4000	-	294	-	662	-	-	ND (140)	-	1180	-	-	398	-	861	-	ND (1450)	-	ND (135)	-
Phenanthrene	10000	-	2350	-	6180	-	-	354	-	23000	-	-	2000	-	3720	-	7650	-	1070	-
Pyrene	1000000	-	2180	-	9050	-	-	630	-	11800	-	-	2370	-	4230	-	6720	-	1890	-
VPH (μg/kg)																				
C9-C10 Aromatics	100000	-	ND (3250)	-	ND (3150)	-	-	194000	-	84500	-	-	ND (2850)	-	ND (4250)	-	19300	-	ND (2550)	-
C5-C8 Aliphatics	100000	-	ND (3250)	-	ND (3150)	-	-	ND (29000)	-	ND (3950)	-	-	ND (2850)	-	ND (4250)	-	ND (2950)	-	ND (2550)	-
C9-C12 Aliphatics	1000000	-	ND (3250)	-	ND (3150)	-	-	228000	-	81800	-	-	ND (2850)	-	ND (4250)	-	13900 ′	-	ND (2550)	-
EPH (μg/kg)				-		-			-		-			-		-				
C9-C18 Aliphatics	1000000	-	13300	-	ND (4800)	-	-	1410000	-	278000	-	-	14800	-	27500	-	98200	-	ND (4950)	-
C19-C36 Aliphatics	3000000	_	67400	-	22500	_	-	710000	-	167000	-	_	85500	-	112000	_	117000	_	58900	-
C11-C22 Aromatics	1000000	_	88200	_	155000	_	_	739000	_	334000	-	l <u>-</u>	138000	_	257000	_	217000	_	69900	_

TABLE II SUMMARY OF SOIL QUALITY DATA FORMER ENERGY INTERNATIONAL PARCEL BOSTON, MASSACHUSETTS FILE NO. 06318-502

Client Sample ID:	MassDEP	HA101 0-2'	HA101 0-4'	HA101 2-4'	HA101 4-8'	HA101 6-8'	HA102 0-2'	HA102 0-4'	HA102 2-4'	HA102 4-8'	HA102 6-8'	HA103 0-2'	HA103 0-4'	HA103 2-4'	HA103 4-8'	HA103 6-8'	HA103 8-12'	HA104 0-2'	HA104 0-4'	HA104 2-4'
•	Reportable	M96288-8	M96289-3	M96288-9	M96289-4	M96288-11	M96288-1	M96289-1	M96288-2	M96289-2	M96288-4	M96256-11	M96257-7	M96256-12	M96257-8	M96256-14	M96257-9	M96256-19	M96257-5	M96256-20
Lab Sample ID:	Concentration	101302000	M96289-3A	10130200 3	M96289-4A	W30200 11	10130200 1	10130203 1	WI30200 Z	M96289-2A	10130200 4	W30230 11	M96257-7A	10130230 12	M96257-8A	WI30230 14	M96257-9A	10130230 13	M96257-5A	W30230 20
Sample Depth (ft):	0011001111011	0-2	0-4	2-4	4-8	6-8	0-2	0-4	2-4	4-8	6-8	0-2	0-4	2-4	4-8	6-8	8-12	0-2	0-4	2-4
Date Sampled:	(RCS-1)	12/2/2010	12/2/2010	12/2/2010	12/2/2010	12/2/2010	12/2/2010	12/2/2010	12/2/2010	12/2/2010	12/2/2010	12/1/2010	12/1/2010	12/1/2010	12/1/2010	12/1/2010	12/1/2010	12/1/2010	12/1/2010	12/1/2010
Matrix:	( )	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill
																				_
Metals (mg/kg)																				
Antimony	20	-	13.6	-	63.6	-	-	ND (0.43)	-	ND (0.9) a	-	-	1.4	-	3	-	ND (2.15) a	-	ND (0.42)	-
Arsenic	20	-	10.3	-	13.1	-	-	7.4	-	16.1	-	-	7.8	-	13.1	-	20.8	=	7.9	-
Barium	1000	-	80.3	-	97.8	-	-	41.2	-	70.5	-	-	57.9	-	120	-	136	-	91.4	-
Beryllium	100	-	0.4	-	ND (0.17)	-	-	0.35	-	ND (0.18)	-	-	0.37	-	0.41	-	0.35	-	0.35	-
Cadmium	2	-	0.94	-	ND (0.17)	-	-	0.4	-	0.46	-	-	0.57	-	0.96	-	0.66	-	ND (0.17)	-
Chromium	30	-	14.9	-	13.1	-	-	13.4	-	12.3	-	-	14.1	-	19.8	-	15.2	-	13.1	-
Lead	300	-	346	-	1690	-	-	83.6	-	210	-	-	175	-	284	-	411	-	268	-
Mercury	20	-	1.1	-	1.6	-	-	0.74	-	1.5	-	-	0.36	-	0.77	-	2.7	-	0.68	-
Nickel	20	-	18.5	-	14.5	-	-	14.4	-	20.1	-	-	14.4	-	18.6	-	26.3	-	12.4	-
Selenium	400	-	ND (0.415)	-	ND (0.42)	-	-	ND (0.43)	-	ND (0.445)	-	-	ND (0.41)	-	1.1	-	0.97	-	ND (0.42)	-
Silver	100	-	0.8	-	5.2	-	-	ND (0.215)	-	ND (0.225)	-	-	ND (0.205)	-	ND (0.23)	-	ND (0.215)	-	ND (0.21)	-
Vanadium	600	-	24.7	-	21.1	-	-	26.8	-	30.4	-	-	24.3	-	24.3	-	22.3	-	22.5	-
Zinc	2500	-	616	-	340	-	-	105	-	239	-	-	107	-	205	-	266	-	111	-
TCLP Metals (mg/L)																				
Lead	NA	_	0.22	_	1.9	_	_	-	-	0.48	-	_	0.043	_	0.082	-	0.35	_	0.059	-
2000			0.22							0.10			0.0.0		0.002		0.00		0.000	
Polychlorinated Biphenyls (PCBs) (µg/kg)																				
Aroclor 1248	2000	ND (55)	-	ND (55)	-	ND (55)	ND (60)	-	ND (50)	-	ND (60)	ND (50)	-	ND (55)	-	ND (60)	-	ND (55)	-	ND (55)
Aroclor 1254	2000	299	-	232	-	ND (55)	ND (60)	-	ND (50)	-	ND (60)	ND (50)	-	728	-	ND (60)	-	1840	-	338
Aroclor 1260	2000	187 a	-	118	-	ND (55)	ND (60)	-	ND (50)	-	ND (60)	ND (50)	-	552 a	-	ND (60)	-	ND (55)	-	315 a
Waste Characteristics																				
Corrosivity as pH	NA	_	7	_	7.2	_		7.4	_	7.4	_	_	8.6	_	7.4	-	7.5	_	7.9	_
Cyanide Reactivity (mg/kg)	NA	_	<1.7	-	<1.7	-	_	<1.7	_	<1.8	-	_	<1.7	_	<1.8	-	<1.8	_	<1.7	-
Ignitability (Flashpoint) (deg F)	NA NA	_	>230	-	>230	_	_	>230	-	>230	-	_	>230	_	>230	-	>230	_	>230	-
Redox Potential Vs H2	NA	_	425	_	429	_	_	427	_	392	_	_	402 b	_	413 <sup>b</sup>	_	394 <sup>b</sup>	_	407 <sup>b</sup>	_
Solids, Percent	NA NA	88.5	89	85.9	90.5	92.9	85.3	88.6	95.4	81.7	84.3	92.8	90.6	85.7	81.7	82.1	83	93.8	90.6	89.2
Sulfide Reactivity (mg/kg)	NA NA	- 55.5	<56	-	90.5 <55	52.5	-	<56	-	<61	-	52.0	<55	-	<61	-	<60	30.0	<55	-
Cullide Reactivity (mg/kg)	INA	_	<b>~30</b>		<b>~</b> 00		<u> </u>	<b>~</b> 00		<b>~</b> 01		_	<b>~</b> 00		<b>~</b> 01		<b>~00</b>	_	<b>~</b> 00	

#### Notes and Abbreviations:

PCBs analyzyed by SW846 EPA Method 8082

<sup>&</sup>lt;sup>a</sup> Elevated RL due to dilution required for matrix interference.

<sup>&</sup>lt;sup>b</sup> Analysis requested after recommended holding time.

Only compounds detected on the dates indicated are included in this table.

ND (110): Compound not detected; value in

parentheses is one half the laboratory reporting limit.

<sup>.</sup> Compound not detected; value is

the laboratory reporting limit. - : Analysis not conducted.

Bold values indicate an exceedance of the

MassDEP Reportable Concentration in Soil (RCS-1).
VOCs: Volatile Organic Compounds by SW846 8260B

SVOCs: Semi-volatile Organic Compounds by SW846 8270C

VPH: Volatile Petroleum Hydrocarbons by MADEP VPH REV 1.1
EPH: Extractable Petroleum Hydrocarbons by MADEP EPH REV 1.1

<sup>&</sup>lt;sup>a</sup> Estimated value due to the presence of other

Aroclor pattern.

TABLE II
SUMMARY OF SOIL QUALITY DATA
FORMER ENERGY INTERNATIONAL PARCEL
BOSTON, MASSACHUSETTS
FILE NO. 06318-502

Lab Sample ID:  Sample Depth (ft): Date Sampled: Matrix:  VOCs (μg/kg) Benzene Naphthalene Toluene 1,2,4-Trimethylbenzene Xylene (total)  SVOCs (μg/kg) Benzoic acid 3&4-Methylphenol Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene	2000 4000 30000 1000000	M96256-22 6-8 12/1/2010 Fill - - - -	M96257-6 M96257-6A 8-13.2 12/1/2010 Fill ND (18) 2570 ND (180) ND (180)	M96256-8 0-2 12/1/2010 Fill - -	M96257-3 M96257-3A 0-4 12/1/2010 Fill 37.7	M96256-9 2-4 12/1/2010 Fill	M96257-4 M96257-4A 4-8 12/1/2010 Fill	M96256-26 6-8 12/1/2010 Fill	M96256-1 0-2 12/1/2010 Fill	M96257-1 M96257-1A 0-4 12/1/2010	M96256-2 2-4 12/1/2010	M96256-4 6-8 12/1/2010	M96257-2 M96257-2A 8-12.5 11/30/2010	M96226-26 0-2 11/30/2010	M96225-7 M96225-7A 0-4	M96226-27 2-4	M96226-29 6-8	M96225-8A 8-12
Date Sampled:         (I           Matrix:         (I           VOCs (μg/kg)         Benzene           Naphthalene         Toluene           1,2,4-Trimethylbenzene         1           Xylene (total)         3           SVOCs (μg/kg)         Benzoic acid         1           3&4-Methylphenol         5           Acenaphthene         Acenaphthylene           Anthracene         1           Benzo(a)anthracene         1	2000 4000 30000 1000000 300000	12/1/2010 Fill - -	12/1/2010 Fill ND (18) 2570 ND (180)	12/1/2010	12/1/2010 Fill 37.7	12/1/2010	12/1/2010	12/1/2010	12/1/2010	12/1/2010								
Matrix:  VOCs (μg/kg)  Benzene Naphthalene Toluene 1,2,4-Trimethylbenzene Xylene (total)  SVOCs (μg/kg)  Benzoic acid 3&4-Methylphenol Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene	2000 4000 30000 1000000 300000	Fill - -	Fill  ND (18) 2570  ND (180)		Fill 37.7						12/1/2010	12/1/2010	11/30/2010	11/30/2010	11/20/2010	44/00/0040	11/00/0010	
VOCs (µg/kg) Benzene Naphthalene Toluene 1,2,4-Trimethylbenzene Xylene (total)  SVOCs (µg/kg) Benzoic acid 3&4-Methylphenol Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene	4000 30000 1000000 300000	- -	ND (18) 2570 ND (180)	Fill - -	37.7	Fill	Fill	Fill	Fill				/00/2010	11/30/2010	11/30/2010	11/30/2010	11/30/2010	11/30/2010
Benzene Naphthalene Toluene 1,2,4-Trimethylbenzene Xylene (total)  SVOCs (µg/kg) Benzoic acid 3&4-Methylphenol Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene	4000 30000 1000000 300000		2570 <sup>^</sup> ND (180)	- -					1 111	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill
Benzene Naphthalene Toluene 1,2,4-Trimethylbenzene Xylene (total)  SVOCs (µg/kg) Benzoic acid 3&4-Methylphenol Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene	4000 30000 1000000 300000		2570 <sup>^</sup> ND (180)	- -														
Naphthalene Toluene 1,2,4-Trimethylbenzene Xylene (total)  SVOCs (µg/kg) Benzoic acid 3&4-Methylphenol Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene	4000 30000 1000000 300000		2570 <sup>^</sup> ND (180)	-		_	ND (14.5)	_	_	ND (9.5)	_	_	102	_	31.7	_	_	ND (20.5)
Toluene 1,2,4-Trimethylbenzene Xylene (total)  SVOCs (µg/kg) Benzoic acid 3&4-Methylphenol Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene	30000 1000000 300000		ND (180)		ND (120)	_	ND (14.5)	_	_	ND (95)	_	_	5750	_	ND (150)	_	_	1090
1,2,4-Trimethylbenzene Xylene (total)  SVOCs (µg/kg)  Benzoic acid 3&4-Methylphenol Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene	1000000 300000	-	` ,	_	ND (120)	_	ND (145)	_	_	ND (95)	_	_	ND (160)	_	ND (150)	-	_	ND (205)
Xylene (total)  SYOCs (µg/kg)  Benzoic acid 11 3&4-Methylphenol 5  Acenaphthene Acenaphthylene Anthracene 11  Benzo(a)anthracene	300000	-	110 (100)	-	ND (120)	_	ND (145)	_	_	ND (95)	_	_	545	_	ND (150)	_	_	ND (205)
Benzoic acid 10 3&4-Methylphenol 5 Acenaphthene Acenaphthylene Anthracene 10 Benzo(a)anthracene	1000000		ND (70)	-	ND (48.5)	-	ND (60)	-	-	ND (38.5)	-	-	466	-	ND (60)	-	-	ND (80)
Benzoic acid 10 3&4-Methylphenol 5 Acenaphthene Acenaphthylene Anthracene 10 Benzo(a)anthracene	1000000																	
3&4-Methylphenol S Acenaphthene Acenaphthylene Anthracene 19 Benzo(a)anthracene	1000000	_	ND (310)	_	ND (280)	_	ND (290)	_	_	ND (270)	_	_	ND (6500)	_	ND (280)	_	_	ND (335)
Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene	500000	-	ND (310)	-	ND (280)	_	ND (290)	-	_	ND (270)	-	-	ND (6500)	_	ND (280)	-	-	727
Acenaphthylene Anthracene 1 Benzo(a)anthracene	4000	_	992	-	ND (200) ND (140)	_	ND (290) ND (145)	-	_	436	-	-	ND (3150)	-	472	_	_	3830
Anthracene 19 Benzo(a)anthracene	1000	-	ND (155)	-	ND (140)	-	ND (145)	-	-	ND (135)	-	-	9470	-	584	-	-	471
Benzo(a)anthracene	10000	-	2120	-	683	-	ND (145)	-	-	914	-	-	11200	-	1760	-	-	4020
` '	7000	-	2620	-	1320	-	ND (145) ND (145)	-	-	1560	-	-	38900	-	4820	-	-	5400
Derizo(a)pyrene	2000	-	1900	-	1070	-	ND (145) ND (145)	-	-	1250	-	-	16600	-	3870	-	-	<b>3260</b>
Dansa (h)fluaranthana		-		-		-			-	1260	-	-		-		-	-	
. ,	7000	-	1370	-	1040	-	ND (145)	-	-		-	-	19700	-	4610	-	-	3300
	1000000	-	1240	-	967	-	ND (145)	-	-	1090	-	-	13500	-	1690	-	-	998
. ,	70000	-	1520	-	921	-	ND (145)	-	-	1050	-	-	7010	-	2970	-	-	2590
,	70000	-	2550	-	1380	-	ND (145)	-	-	1580	-	-	69200	-	5060	-	-	5550
Dibenzo(a,h)anthracene	700	-	464	-	350	-	ND (145)	-	-	379	-	-	19000	-	834	-	-	542
	100000	-	540	-	ND (140)	-	ND (145)	-	-	326	-	-	8210	-	402	-	-	2010
` ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '	200000	-	ND (155)	-	ND (140)	-	ND (145)	-	-	ND (135)	-	-	ND (3150)	-	ND (140)	-	-	ND (170)
	1000000	-	4880	-	2280	-	514	-	-	3020	-	-	25200	-	8090	-	-	10500
	1000000	-	1120	-	281	-	ND (145)	-	-	463	-	-	10600	-	595	-	-	3610
Indeno(1,2,3-cd)pyrene	7000	-	1190	-	937	-	ND (145)	-	-	1030	-	-	10900	-	1900	-	-	1150
2-Methylnaphthalene	700	-	385	-	ND (140)	-	ND (145)	-	-	ND (135)	-	-	9330	-	417	-	-	2010
Naphthalene	4000	-	1330	-	344	-	ND (145)	-	-	396	-	-	35100	-	675	-	-	5360
Phenanthrene	10000	-	5120	-	2070	-	564	-	-	3150	-	-	39500	-	5290	-	-	12700
Pyrene 1	1000000	-	4560	-	2260	-	509	-	-	2900	-	-	22600	-	5880	-	-	7840
VPH (µg/kg)																		
	100000	-	ND (3900)	-	17300	-	8360	-	-	ND (2100)	-	-	18200	-	ND (3200)	-	-	ND (4350)
	100000	-	ND (3900)	-	8770	-	ND (3150)	_	-	ND (2100)	-	-	16800	_	ND (3200)	-	-	ND (4350)
	1000000	-	ND (3900)	-	ND (2650)	-	ND (3150)	-	-	ND (2100)	-	-	ND (3450)	-	ND (3200)	-	-	ND (4350)
EPH (µg/kg)								-										
	1000000	_	23000	_	16700	_	ND (5500)	_	_	ND (4800)	_	_	265000	_	20100	_	_	31500
·	3000000									, ,			200000		20100			01000
C11-C22 Aromatics		_	83100		88200		21800		_	39800	_	_	4860000	_	143000	_	_	123000

TABLE II SUMMARY OF SOIL QUALITY DATA FORMER ENERGY INTERNATIONAL PARCEL BOSTON, MASSACHUSETTS FILE NO. 06318-502

Client Sample ID:	MassDEP	HA104 6-8'	HA104 8-13.2'	HA105_0-2'	HA105 0-4'	HA105 2-4'	HA105 4-8'	HA105 6-8'	HA106 0-2'	HA106 0-4'	HA106 2-4'	HA106 6-8'	HA106_8-12.5'	HA107 0-2'	HA107 0-4'	HA107 2-4'	HA107 6-8'	HA107_8-12'
·	Reportable	M96256-22	M96257-6	M96256-8	M96257-3	M96256-9	M96257-4	M96256-26	M96256-1	M96257-1	M96256-2	M96256-4	M96257-2	M96226-26	M96225-7	M96226-27	M96226-29	M96225-8
Lab Sample ID:	Concentration	10130230 22	M96257-6A	W130230 0	M96257-3A	W30230 3	M96257-4A	10100200 20	10130230 1	M96257-1A	WI30230 Z	W30230 4	M96257-2A	W30220 20	M96225-7A	10130220 27	W30220 23	M96225-8A
Sample Depth (ft):		6-8	8-13.2	0-2	0-4	2-4	4-8	6-8	0-2	0-4	2-4	6-8	8-12.5	0-2	0-4	2-4	6-8	8-12
Date Sampled:	(RCS-1)	12/1/2010	12/1/2010	12/1/2010	12/1/2010	12/1/2010	12/1/2010	12/1/2010	12/1/2010	12/1/2010	12/1/2010	12/1/2010	11/30/2010	11/30/2010	11/30/2010	11/30/2010	11/30/2010	11/30/2010
Matrix:	, ,	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill
Metals (mg/kg)																		
Antimony	20	-	1.2	-	0.88	-	ND (0.45)	-	-	ND (0.425)	-	-	7.6	-	1	-	-	ND (0.5)
Arsenic	20	-	9.5	-	8.4	-	7.2	-	-	7.8	-	-	16	-	11.2	-	-	7.8
Barium	1000	-	192	-	81.5	-	180	-	-	68.7	-	-	128	-	108	-	-	165
Beryllium	100	-	0.62	-	0.41	-	0.43	-	-	0.38	-	-	ND (0.195)	-	0.5	-	-	0.5
Cadmium	2	-	< 0.36	-	0.48	-	ND (0.18)	-	-	ND (0.17)	-	-	0.75	-	0.45	-	-	ND (0.205)
Chromium	30	-	22.6	-	13.9	-	10.3	-	-	14.1	-	-	10.9	-	21.4	-	-	20.6
Lead	300	-	302	-	190	-	245	-	-	166	-	-	588	-	231	-	-	338
Mercury	20	-	1.8	-	1.4	-	0.87	-	-	0.44	-	-	1.6	-	1.4	-	-	1.8
Nickel	20	-	17.2	-	17.3	-	10.9	-	-	11.2	-	-	11.3	-	16.8	-	-	15.5
Selenium	400	-	ND (0.45)	-	ND (0.42)	-	ND (0.45)	-	-	ND (0.425)	-	-	3.9	-	1.3	-	-	ND (0.5)
Silver	100	-	ND (0.225)	-	ND (0.21)	-	ND (0.225)	-	-	ND (0.21)	-	-	1.3	-	0.81	-	-	0.77
Vanadium	600	-	32.6	-	20.8	-	17.8	-	-	19.9	-	-	16.8	-	27.5	-	-	27
Zinc	2500	-	178	-	182	-	128	-	-	88.7	-	-	372	-	214	-	-	198
TCLP Metals (mg/L)																		
Lead	NA		0.74		0.36		0.46			0.28			1.7		0.15			0.5
Lead	INA	_	0.74	-	0.30	-	0.46	-	-	0.20	-	-	1.7	-	0.15	-	-	0.5
Polychlorinated Biphenyls (PCBs) (µg/kg)																		
Aroclor 1248	2000	ND (65)	-	ND (50)	-	132 a	-	ND (65)	ND (49.5)	-	ND (60)	ND (65)	-	ND (55)	-	ND (60)	ND (70)	-
Aroclor 1254	2000	ND (65)	-	ND (50)	-	379	-	ND (65)	ND (49.5)	-	ND (60)	ND (65)	-	276	-	567	ND (70)	-
Aroclor 1260	2000	ND (65)	-	ND (50)	-	308 a	-	ND (65)	ND (49.5)	-	147	ND (65)	-	ND (55)	-	463 a	ND (70)	-
Waste Characteristics																		
Corrosivity as pH	NA		7.8		8		7.7	_		8.4			7.5		7.8			7.7
Cyanide Reactivity (mg/kg)	NA NA	1 -	7.8 <1.9	-	o <1.7	-	7.7 <1.8	-	-	6.4 <1.7	-	-	7.5 <1.9	-	7.8 <1.7	-	-	<2.0
Ignitability (Flashpoint) (deg F)	NA NA	1 -	>230	-	>230	-	>230	-	-	>230	-	-	>230	-	>230	-	-	>230
. , , , , ,		1 -	371 <sup>b</sup>	-	364 <sup>b</sup>	-	387 <sup>b</sup>	-	-	>230 446 <sup>b</sup>	-	-	322 <sup>b</sup>	-		-	-	426 <sup>b</sup>
Redox Potential Vs H2	NA	74.0	-	-		- 07.5		- 77.4	-		-	- 70.0		- 00.7	441 <sup>b</sup>	-	-	
Solids, Percent	NA	71.8	80.1	95.7	89.1	87.5	84.9	77.1	94.9	90.8	81.6	79.3	79.7	92.7	88.4	85	68.6	73.4
Sulfide Reactivity (mg/kg)	NA	-	<62	-	<56	-	<59	-	-	<55	-	-	<63	-	<57	-	-	<68

PCBs analyzyed by SW846 EPA Method 8082

<sup>&</sup>lt;sup>a</sup> Elevated RL due to dilution required for matrix interference.

<sup>&</sup>lt;sup>b</sup> Analysis requested after recommended holding time.

Only compounds detected on the dates indicated are included in this table.

ND (110): Compound not detected; value in

parentheses is one half the laboratory reporting limit.

<sup>.</sup> Compound not detected; value is

the laboratory reporting limit. - : Analysis not conducted.

Bold values indicate an exceedance of the

MassDEP Reportable Concentration in Soil (RCS-1).
VOCs: Volatile Organic Compounds by SW846 8260B

SVOCs: Semi-volatile Organic Compounds by SW846 8270C

VPH: Volatile Petroleum Hydrocarbons by MADEP VPH REV 1.1
EPH: Extractable Petroleum Hydrocarbons by MADEP EPH REV 1

<sup>&</sup>lt;sup>a</sup> Estimated value due to the presence of other

Aroclor pattern.

TABLE II
SUMMARY OF SOIL QUALITY DATA
FORMER ENERGY INTERNATIONAL PARCEL
BOSTON, MASSACHUSETTS
FILE NO. 06318-502

Client Sample ID:	MassDEP	HA108_0-2'	HA108_0-4'	HA108_2-4'	HA108_4-8'	HA108_6-8'	HA109_0-2'	HA109_0-4'	HA109_2-4'	HA109_6-8'	HA109_8-12'	HA110_0-2'	HA110_0-4'	HA110_2-4'	HA110_4-8'	HA110_6-8'	HA111_0-2'	HA111_0-4'
Lab Sample ID:	Reportable Concentration	M96226-19	M96225-5 M96225-5A	M96226-20	M96225-6 M96225-6A	M96226-22	M96226-10	M96225-3 M96225-3A	M96226-11	M96226-13	M96225-4 M96225-4A	M96226-1	M96225-1 M96225-1A	M96226-2	M96225-2 M96225-2A	M96226-4	M96200-19	M96199-5 M96199-5A
Sample Depth (ft):		0-2	0-4	2-4	4-8	6-8	0-2	0-4	2-4	6-8	8-12	0-2	0-4	2-4	4-8	6-8	0-2	0-4
Date Sampled:	(RCS-1)	11/30/2010	11/30/2010	11/30/2010	11/30/2010	11/30/2010	11/30/2010	11/30/2010	11/30/2010	11/30/2010	11/30/2010	11/30/2010	11/30/2010	11/30/2010	11/30/2010	11/30/2010	11/29/2010	11/29/2010
Matrix:	, ,	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill
VOCs (μg/kg)																		
Benzene	2000	-	31	-	ND (18.5)	-	-	74.5	-	-	ND (16)	-	35.5	-	ND (16.5)	-	-	ND (14)
Naphthalene	4000	-	665	-	ND (185)	-	-	2080	-	-	1540	-	357	-	ND (165)	-	-	ND (140)
Toluene	30000	-	ND (145)	-	ND (185)	-	-	ND (165)	-	-	ND (160)	-	ND (140)	-	ND (165)	-	-	ND (140)
1,2,4-Trimethylbenzene	1000000	-	ND (145)	-	ND (185)	-	-	ND (165)	-	-	ND (160)	-	ND (140)	-	ND (165)	-	-	ND (140)
Xylene (total)	300000	-	ND (60)	-	ND (75)	-	-	154	-	-	ND (65)	-	120	-	ND (65)	-	-	ND (55)
SVOCs (µg/kg)																		
Benzoic acid	1000000	-	ND (280)	-	ND (295)	-	-	ND (2700)	-	-	ND (285)	-	685	-	ND (300)	-	-	ND (275)
3&4-Methylphenol	500000	-	ND (280)	-	ND (295)	-	-	ND (2700)	-	-	ND (285)	-	ND (285)	-	ND (300)	-	-	ND (275)
Acenaphthene	4000	-	297	-	1040	-	-	5850	-	-	468	-	2130	-	1040	-	-	ND (140)
Acenaphthylene	1000	-	375	-	ND (145)	-	-	ND (1350)	-	-	340	-	980	-	625	-	-	ND (140)
Anthracene	1000000	-	996	-	ND (145)	-	-	16000	-	-	1140	-	5630	-	3470	-	-	536
Benzo(a)anthracene	7000	-	2620	-	ND (145)	-	-	42700	-	-	2440	-	16800	-	6020	-	-	1660
Benzo(a)pyrene	2000	-	2160	-	ND (145)	-	-	27400	-	-	1900	-	9720	-	2510	-	-	1390
Benzo(b)fluoranthene	7000	_	2380	-	ND (145)	_	_	20900	_	_	1930	_	11000	_	3660	_	_	1310
Benzo(g,h,i)perylene	1000000	_	923	-	ND (145)	_	-	9820	_	_	898	_	3880	_	1280	-	_	672
Benzo(k)fluoranthene	70000	_	1910	_	ND (145)	_	-	14800	_	_	1560	_	5560	_	3470	-	_	1130
Chrysene	70000	_	2780	-	ND (145)	_	_	50500	_	_	2550	_	16600	_	5900	_	_	1760
Dibenzo(a,h)anthracene	700	_	438	-	ND (145)	_	_	5730	_	_	533	_	2380	_	942	_	_	314
Dibenzofuran	100000	_	ND (140)	-	ND (145)	_	_	ND (1350)	_	_	474	_	1630	_	904	_	_	ND (140)
bis(2-Ethylhexyl)phthalate	200000	_	ND (140)	-	ND (145)	_	_	ND (1350)	_	_	ND (145)	<del>-</del>	ND (140)	-	ND (150)	_	_	ND (140)
Fluoranthene	1000000	-	4500	-	785	-	-	47700	-	-	4240	-	31500	-	10500	-	_	2940
Fluorene	1000000	_	354	-	765 ND (145)	-	-	6230	-	-	582	-	2410	-	1630	-	_	ND (140)
		-	1060		, ,	-	-	9810	-	-	980	-	4540		1520	-	_	735
Indeno(1,2,3-cd)pyrene	7000	-		-	ND (145)	-	-	ND (1350)	-	-		-		-		-	_	
2-Methylnaphthalene	700	-	351	-	ND (145)	-	-	, ,	-	-	565	-	1010	-	443	-	_	ND (140)
Naphthalene	4000	-	549	-	563	-	-	ND (1350)	-	-	942	-	2530	-	1440	-	-	ND (140)
Phenanthrene	10000	-	3080	-	832	-	-	57700	-	-	3520	-	23200	-	8360	-	-	2100
Pyrene	1000000	-	3230	-	525	-	-	55500	-	-	3440	-	27200	-	7950	-	-	2330
VPH (μg/kg)																		
C9-C10 Aromatics	100000	-	ND (3150)	-	ND (4050)	-	-	ND (36000)	-	-	ND (3500)	-	ND (3050)	-	ND (3600)	-	-	ND (3000)
C5-C8 Aliphatics	100000	-	ND (3150)	-	ND (4050)	-	-	ND (36000)	-	-	ND (3500)	-	ND (3050)	-	ND (3600)	-	-	ND (3000)
C9-C12 Aliphatics	1000000	-	ND (3150)	-	ND (4050)	-	-	ND (36000)	-	-	ND (3500)	-	ND (3050)	-	ND (3600)	-	-	ND (3000)
EPH (µg/kg)						-										-		
C9-C18 Aliphatics	1000000	_	22300	-	13700	_	_	15400	_	_	24800	_	21000	_	27200	-	_	ND (4700)
C19-C36 Aliphatics	300000	_	111000	-	ND (5500)	_	_	255000	_	_	107000	_	102000	_	106000	_		12000
C11-C22 Aromatics	1000000		135000		35800	-	_	1130000	-	-	134000	-	351000	-	154000	-	1	46900
OTT-022 ATOMATICS	1000000		133000	-	JU800	-		1130000	-	-	134000	-	30 1000	-	104000	-	-	40900

TABLE II SUMMARY OF SOIL QUALITY DATA FORMER ENERGY INTERNATIONAL PARCEL BOSTON, MASSACHUSETTS FILE NO. 06318-502

Client Sample ID:	MassDEP	HA108_0-2'	HA108_0-4'	HA108_2-4'	HA108_4-8'	HA108_6-8'	HA109_0-2'	HA109_0-4'	HA109_2-4'	HA109_6-8'	HA109_8-12'	HA110_0-2'	HA110_0-4'	HA110_2-4'	HA110_4-8'	HA110_6-8'	HA111_0-2'	HA111_0-4'
Lab Sample ID:	Reportable	M96226-19	M96225-5	M96226-20	M96225-6	M96226-22	M96226-10	M96225-3	M96226-11	M96226-13	M96225-4	M96226-1	M96225-1	M96226-2	M96225-2	M96226-4	M96200-19	M96199-5
·	Concentration		M96225-5A		M96225-6A			M96225-3A			M96225-4A		M96225-1A		M96225-2A			M96199-5A
Sample Depth (ft):		0-2	0-4	2-4	4-8	6-8	0-2	0-4	2-4	6-8	8-12	0-2	0-4	2-4	4-8	6-8	0-2	0-4
Date Sampled:	(RCS-1)	11/30/2010	11/30/2010	11/30/2010	11/30/2010	11/30/2010	11/30/2010	11/30/2010	11/30/2010	11/30/2010	11/30/2010	11/30/2010	11/30/2010	11/30/2010	11/30/2010	11/30/2010	11/29/2010	11/29/2010
Matrix:		Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill
Matala (malla)																		
Metals (mg/kg)	20		0.00		4.0			ND (0.44E)			2.2		ND (0.44E)		ND (0.42)			0.4
Antimony Arsenic	20 20	-	0.99 8.3	-	1.3 7.5	-	-	ND (0.415)	-	-	3.3 15.5	-	ND (0.445) 11.7	-	ND (0.43) 14.1	-	_	2.4 18.9
Barium	1000	-	81.4	-	7.5 97	-	-	7.5 106	-	-	15.5	-	134	-	14.1	-	-	
		-	0.47		0.39	-	_	0.48	-	-	0.47	-	0.45		0.47	-	-	198
Beryllium Cadmium	100	-	0.47	-	0.39 ND (0.175)	-	-	1.5	-	-	1.1	_	0.45 0.51	-	0.47	-	_	0.65 0.54
Chromium	30	_	15.8	-	7.9	-	_	14.3	-	-	15.8	_	14.8	-	17.5	-	_	17.6
	300		277			-		288					150		319			912
Lead Mercury	300 20	-	1.1	-	229 0.59	-	-	1.2	-	-	689 10.7	-	1.3	-	4.8	-	-	0.53
Nickel	20 20	-	13.7	-	10.8	-	-	12.3	-	-	10.7 15.4	-	18.8	-	4.8 <b>20.6</b>	-	_	0.53 15.4
		-		-		-	-		-	-		-		-		-	_	
Selenium	400	-	ND (0.43)	-	1.4	-	-	ND (0.415)	-	-	1.5 1	-	ND (0.445)	-	0.95	-	-	0.97
Silver	100	-	ND (0.215)	-	ND (0.215)	-	-	ND (0.21)	-	-	•	-	ND (0.22)	-	0.73	-	-	ND (0.21)
Vanadium	600	-	25.6	-	14.8	-	-	25.7	-	-	23.3	-	21.3	-	27	-	-	24.6
Zinc	2500	-	188	-	169	-	-	267	-	-	353	-	167	-	237	-	-	145
TCLP Metals (mg/L)																		
Lead	NA	-	0.42	-	0.88	-	-	0.012	-	-	2.5	-	0.015	-	0.94	-	-	0.56
Polychlorinated Biphenyls (PCBs) (μg/kg)																		
Aroclor 1248	2000	ND (60)	_	ND (55)	_	ND (60)	ND (55)	_	ND (55)	ND (55)	_	ND (60)	_	ND (55)	_	ND (55)	1140 E a	
Aroclor 1254	2000	242 a	-	244	-	ND (60)	ND (55)	-	341 a	115	-	172	-	549	-	ND (55)	4470 a	_
Aroclor 1260	2000	310 a	-	ND (55)	_	ND (60)	ND (55)	_	353	ND (55)	_	136 a	_	457 a	_	ND (55)	6020	_
AIOCIOI 1200	2000	310 a	-	ND (55)	-	ND (00)	ND (33)	-	333	ND (33)	-	130 a	-	457 a	-	ND (33)	0020	-
Waste Characteristics																		
Corrosivity as pH	NA	-	8	-	7.8	-	-	10.4	-	-	7.6	-	10.7	-	8.7	-	-	7.7
Cyanide Reactivity (mg/kg)	NA	-	<1.7	-	<1.8	-	-	<1.7	-	-	<1.8	-	<1.7	-	<1.8	-	-	<1.7
Ignitability (Flashpoint) (deg F)	NA	-	>230	-	>230	-	-	>230	-	-	>230	-	>230	-	>230	-	-	>230
Redox Potential Vs H2	NA	-	425 <sup>b</sup>	-	427 <sup>b</sup>	-	-	383 <sup>b</sup>	-	-	407 <sup>b</sup>	-	342 <sup>b</sup>	-	385 <sup>b</sup>	-	_	402 <sup>b</sup>
Solids, Percent	NA	85.1	87.4	85	83.3	84.3	87.9	88.8	83.6	87	83.8	85.1	87.5	89	83.5	84.9	87.7	89.1
Sulfide Reactivity (mg/kg)	NA	-	<57	-	<60	-	-	<56	-	-	<60	-	<57	-	<60	-	-	<56

<sup>&</sup>lt;sup>a</sup> Elevated RL due to dilution required for matrix interference.

<sup>&</sup>lt;sup>b</sup> Analysis requested after recommended holding time.

Only compounds detected on the dates indicated are included in this table.

ND (110): Compound not detected; value in

parentheses is one half the laboratory reporting limit.

<sup>.</sup> Compound not detected; value is the laboratory reporting limit.

<sup>- :</sup> Analysis not conducted.

Bold values indicate an exceedance of the

MassDEP Reportable Concentration in Soil (RCS-1).
VOCs: Volatile Organic Compounds by SW846 8260B

SVOCs: Semi-volatile Organic Compounds by SW846 8270C

VPH: Volatile Petroleum Hydrocarbons by MADEP VPH REV 1.1
EPH: Extractable Petroleum Hydrocarbons by MADEP EPH REV 1

<sup>&</sup>lt;sup>a</sup> Estimated value due to the presence of other Aroclor pattern.

PCBs analyzyed by SW846 EPA Method 8082

TABLE II
SUMMARY OF SOIL QUALITY DATA
FORMER ENERGY INTERNATIONAL PARCEL
BOSTON, MASSACHUSETTS
FILE NO. 06318-502

Client Sample ID:	MassDEP	HA111_2-4'	HA111_6-8'	HA111_8-10'	HA111_8-12'	HA111_10-12	HA111_12-14'	HA111_14-16'	HA111_16-18'	HA112_0-2'		HA112_2-4'	HA112_4-8'			HA112_10-12'	HA112_12-14'	HA112_14-16.5'	HA112_16.5-18'
Lab Sample ID:	Reportable Concentration	M96200-20	M96200-22	M96200-23	M96199-6	M96200-24	M96200-25	M96200-26	M96200-27	M96200-1	M96199-1 M96199-1A	M96200-2	M96199-2 M96199-2A	M96200-4	M96200-5	M96200-6	M96200-10	M96200-7	M96200-8
Sample Depth (ft):		2-4	6-8	8-10	8-12	10-12	12-14	14-16	16-18	0-2	0-4	2-4	4-8	6-8	8-10	10-12	12-14	14-16.5	16.5-18
Date Sampled:	(RCS-1)	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010
Matrix:		Fill	Fill	Fill	Fill	Fill	Fill	Fill	Organics	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Organics
VOCs (μg/kg)																			
Benzene	2000	-	-	-	ND (24)	-	-	-	-	-	ND (13)	-	ND (18.5)	-	-	-	-	-	-
Naphthalene	4000	-	-	-	1510	-	-	-	-	-	385	-	ND (185)	-	-	-	-	-	=
Toluene	30000	-	-	-	ND (240)	-	-	-	-	-	ND (130)	-	ND (185)	-	-	-	-	-	=
1,2,4-Trimethylbenzene	1000000	-	-	-	ND (240)	-	-	-	-	-	ND (130)	-	ND (185)	-	-	-	-	-	-
Xylene (total)	300000	-	-	-	ND (95)	-	-	-	-	-	ND (55)	-	ND (75)	-	-	-	-	-	-
SVOCs (µg/kg)																			
Benzoic acid	1000000	-	-	-	ND (365)	-	-	-	-	-	634	-	771	-	-	-	-	-	-
3&4-Methylphenol	500000	-	-	-	850	-	-	-	-	-	ND (260)	-	ND (295)	-	-	-	-	-	-
Acenaphthene	4000	-	-	-	1840	-	-	-	-	-	705	-	829	-	-	-	-	-	-
Acenaphthylene	1000	-	-	-	651	-	-	-	-	-	1580	-	724	-	-	-	-	-	-
Anthracene	1000000	-	-	-	4850	-	-	-	-	-	3700	-	2610	-	-	-	-	-	-
Benzo(a)anthracene	7000	-	-	-	7650	_	-	-	-	-	9030	-	4970	-	-	-	-	-	-
Benzo(a)pyrene	2000	-	-	-	3890	-	-	-	-	-	6950	-	3930	-	-	-	-	-	-
Benzo(b)fluoranthene	7000	_	-	_	3490	_	-	-	_	_	7450	_	3690	-	_	-	_	_	-
Benzo(g,h,i)perylene	1000000	_	_	_	1410	_	_	-	_	_	3870	_	2000	-	-	-	-	_	-
Benzo(k)fluoranthene	70000	_	_	_	2970	_	_	-	_	_	4280	_	3210	-	_	-	-	_	-
Chrysene	70000	_	_	_	7470	_	_	_	_	_	9170	-	5140	_	_	_	_	_	_
Dibenzo(a,h)anthracene	700	_	_	_	696	_	_	_	_	_	2260	-	1120	_	_	_	_	_	_
Dibenzofuran	100000	_	_	_	1920	_	_	-	_	_	1150	-	986	_	-	-	-	_	-
		-	-	-		-	-	-	-	-		-		-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	200000	-	-	-	409	-	-	-	-	-	ND (130)		ND (145)	-	-	-	-	-	-
Fluoranthene	1000000	-	-	-	12100	-	-	-	-	-	22000	-	8940	-	-	-	-	-	-
Fluorene	1000000	-	-	-	3130	-	-	-	-	-	1190	-	1240	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	7000	-	-	-	1600	-	-	-	-	-	4260	-	2140	-	-	-	-	-	-
2-Methylnaphthalene	700	-	-	-	1270	-	-	-	-	-	318	-	501	-	-	-	-	-	-
Naphthalene	4000	-	-	-	6010	-	-	-	-	-	628	-	954	-	-	-	-	-	-
Phenanthrene	10000	-	-	-	10400	-	-	-	-	-	18400	-	7940	-	-	-	-	-	-
Pyrene	1000000	-	-	-	12100	-	-	-	-	-	19500	-	7230	-	-	-	-	-	-
VPH (μg/kg)																			
C9-C10 Aromatics	100000	-	-	-	ND (5000)	-	-	-	-	-	ND (2900)	-	ND (4000)	-	-	-	-	-	-
C5-C8 Aliphatics	100000	-	-	-	ND (5000)	-	-	-	-	-	ND (2900)	-	10300	-	-	-	-	-	-
C9-C12 Aliphatics	1000000	-	-	-	ND (5000)	-	-	-	-	-	ND (2900)	-	ND (4000)	-	-	-	-	-	-
EPH (μg/kg)									-										-
C9-C18 Aliphatics	1000000	-	-	-	54500	-	-	-	-	-	12100	-	31100	-	-	-	-	-	-
C19-C36 Aliphatics	3000000	-	-	-	143000	-	-	-	-	-	58200	-	77700	-	-	-	-	-	-
C11-C22 Aromatics	100000	_	_	_	161000	_	-	-	_	_	325000	_	74100	-	_	-	_	_	_

TABLE II SUMMARY OF SOIL QUALITY DATA FORMER ENERGY INTERNATIONAL PARCEL BOSTON, MASSACHUSETTS FILE NO. 06318-502

Client Sample ID:	MassDEP	HA111_2-4'	HA111_6-8'	HA111_8-10'	HA111_8-12'	HA111_10-12'	HA111_12-14'	HA111_14-16'	HA111_16-18'	HA112_0-2'	HA112_0-4'	HA112_2-4'	HA112_4-8'	HA112_6-8'	HA112_8-10'	HA112_10-12'	HA112_12-14'	HA112_14-16.5'	HA112_16.5-18'
Lab Sample ID:	Reportable Concentration	M96200-20	M96200-22	M96200-23	M96199-6	M96200-24	M96200-25	M96200-26	M96200-27	M96200-1	M96199-1 M96199-1A	M96200-2	M96199-2 M96199-2A	M96200-4	M96200-5	M96200-6	M96200-10	M96200-7	M96200-8
Sample Depth (ft):	Concontiation	2-4	6-8	8-10	8-12	10-12	12-14	14-16	16-18	0-2	0-4	2-4	4-8	6-8	8-10	10-12	12-14	14-16.5	16.5-18
Date Sampled:	(RCS-1)	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010
Matrix:	, ,	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Organics	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Organics
Metals (mg/kg)																			
Antimony	20	-	-	-	ND (0.55)	-	-	-	-	-	ND (0.405)	-	ND (0.435)	-	-	-	-	-	-
Arsenic	20	-	-	-	6.2	-	-	-	-	-	6.9	-	12.4	-	-	-	-	-	-
Barium	1000	-	-	-	55.8	-	-	-	-	-	71.4	-	109	-	-	-	-	-	-
Beryllium	100	-	-	-	0.56	-	-	-	-	-	0.45	-	0.5	-	-	-	-	-	-
Cadmium	2	-	-	-	ND (0.22)	-	-	-	-	-	0.66	-	0.78	-	-	-	-	-	-
Chromium	30	-	-	-	22	-	-	-	-	-	8.9	-	17.3	-	-	-	-	-	-
Lead	300	-	-	-	82.8	-	-	-	-	-	722	-	335	-	-	-	-	-	-
Mercury	20	-	-	-	1.4	-	-	-	-	-	0.69	-	0.98	-	-	-	-	-	-
Nickel	20	-	-	-	14.1	-	-	-	-	-	9.7	-	17.1	-	-	-	-	-	-
Selenium	400	-	-	-	ND (0.55)	-	-	-	-	-	ND (0.405)	-	2	-	-	-	-	-	-
Silver	100	-	-	-	ND (0.275)	-	-	-	-	-	ND (0.205)	-	ND (0.215)	-	-	-	-	-	-
Vanadium	600	-	-	-	28.3	-	-	-	-	-	17	-	26.9	-	-	-	-	-	-
Zinc	2500	-	-	-	70.3	-	-	-	-	-	172	-	682	-	-	-	-	-	-
TCLP Metals (mg/L)																			
Lead	NA	-	-	-	-	-	-	-	-	-	1.8	-	0.56	-	-	-	-	-	-
Polychlorinated Biphenyls (PCBs) (µg/kg)																			
Aroclor 1248	2000	ND (60)	ND (70)	ND (75)	-	ND (80)	ND (70)	ND (80)	ND (80)	ND (55)	-	ND (50)	-	ND (55)	ND (55)	ND (65)	ND (60)	ND (60)	ND (75)
Aroclor 1254	2000	ND (60)	ND (70)	ND (75)	-	ND (80)	ND (70)	ND (80)	ND (80)	ND (55)	-	ND (50)	-	ND (55)	ND (55)	ND (65)	ND (60)	ND (60)	ND (75)
Aroclor 1260	2000	ND (60)	ND (70)	ND (75)	-	ND (80)	ND (70)	ND (80)	ND (80)	ND (55)	-	ND (50)	-	ND (55)	ND (55)	ND (65)	ND (60)	ND (60)	ND (75)
Waste Characteristics																			
Corrosivity as pH	NA	-	-	-	8	-	-	-	-	-	6.9	-	7.4	-	-	-	-	-	-
Cyanide Reactivity (mg/kg)	NA	-	-	-	<2.2	-	-	-	-	-	<1.6	-	<1.8	-	-	-	-	-	-
Ignitability (Flashpoint) (deg F)	NA	-	-	-	>230	-	-	-	-	-	>230	-	>230	-	-	-	-	-	-
Redox Potential Vs H2	NA	_	-	-	326 <sup>b</sup>	-	-	-	_	-	380 <sup>b</sup>	_	384 <sup>b</sup>	-	_	-	-	_	-
Solids, Percent	NA NA	85.8	70.2	63.9	67.3	63	71.6	61.7	60.2	90.9	91.9	91.5	82.7	82.8	85.3	70.9	79.8	79.4	63.2
Sulfide Reactivity (mg/kg)	NA NA	-	-	-	<74	-	-	-	-	-	<54	-	<60	-	-	-	-	-	-

<sup>&</sup>lt;sup>a</sup> Elevated RL due to dilution required for matrix interference.

<sup>&</sup>lt;sup>b</sup> Analysis requested after recommended holding time.

Only compounds detected on the dates indicated are included in this table.

ND (110): Compound not detected; value in

parentheses is one half the laboratory reporting limit.

<sup>.</sup> Compound not detected; value is

the laboratory reporting limit. - : Analysis not conducted.

Bold values indicate an exceedance of the

MassDEP Reportable Concentration in Soil (RCS-1).
VOCs: Volatile Organic Compounds by SW846 8260B

SVOCs: Semi-volatile Organic Compounds by SW846 8270C

VPH: Volatile Petroleum Hydrocarbons by MADEP VPH REV 1.1
EPH: Extractable Petroleum Hydrocarbons by MADEP EPH REV 1

<sup>&</sup>lt;sup>a</sup> Estimated value due to the presence of other Aroclor pattern.

PCBs analyzyed by SW846 EPA Method 8082

TABLE II
SUMMARY OF SOIL QUALITY DATA
FORMER ENERGY INTERNATIONAL PARCEL
BOSTON, MASSACHUSETTS
FILE NO. 06318-502

Client Sample ID:	MassDEP	HA113_0-2'			HA113_6-8'	HA113_8-10	' HA113_10-12			HA113_14-15.5'	HA113_15.5-18'	HA-201 S1	HA-201 S1B	HA-201 S2	HA-201 S3	HA-202 S1	HA-202 S2	HA-202 S3
Lab Sample ID:	Reportable Concentration	M96200-9	M96199-3 M96199-3A	M96200-11	M96200-13	M96200-14	M96200-15	M96200-16	M96199-4	M96200-17	M96200-18	L1203640-01	L1203640-06 Dup of B201 S1	L1203640-02	L1203640-03	L1203630-01	L1203630-02	L1203630-03
Sample Depth (ft):		0-2	0-4	2-4	6-8	8-10	10-12	12-14	12-15.5	14-15.5	15.5-18	0-0.5	0-0.5	1-2	2-3	0-0.5	1-2	2-3
Date Sampled:	(RCS-1)	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	3/2/2012	3/2/2012	3/2/2012	3/2/2012	3/2/2012	3/2/2012	3/2/2012
Matrix:		Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Organics	Fill	Fill	Fill	Fill	Fill	Fill	Fill
VOCs (μg/kg)																		
Benzene	2000	-	ND (17.5)	-	-	-	-	-	ND (22)	-	-	-	-	-	-	-	-	-
Naphthalene	4000	-	ND (175)	-	-	-	-	-	1860	-	-	-	-	-	-	-	-	-
Toluene	30000	-	ND (175)	-	-	-	-	-	ND (220)	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	1000000	-	ND (175)	-	-	-	-	-	ND (220)	-	-	-	-	-	-	-	-	-
Xylene (total)	300000	-	ND (70)	-	-	-	-	-	ND (90)	-	-	-	-	-	-	-	-	-
SVOCs (μg/kg)																		
Benzoic acid	1000000	-	ND (290)	-	-	-	-	-	ND (310)	-	-	-	-	-	-	-	-	-
3&4-Methylphenol	500000	-	ND (290)	-	-	-	-	-	ND (310)	-	-	-	-	-	-	-	-	-
Acenaphthene	4000	-	654	-	-	-	-	-	ND (155)	-	-	-	-	-	-	-	-	-
Acenaphthylene	1000	-	588	-	-	-	-	-	ND (155)	-	-	-	-	-	-	-	-	-
Anthracene	1000000	-	1860	-	-	-	-	-	527	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	7000	_	3810	_	-	_	-	_	750	_	_	_	-	_	-	_	_	-
Benzo(a)pyrene	2000	_	3060	_	_	_	-	-	554	_	_	_	-	_	-	_	_	-
Benzo(b)fluoranthene	7000	_	3230	_	_	_	_	_	464	_	_	_	_	_	_	_	_	_
Benzo(g,h,i)perylene	1000000	_	1560	_	_	_	_	_	ND (155)	_	_	_	_	_	_	_	_	_
Benzo(k)fluoranthene	70000	_	2650	_	_	_	_	_	456	_	_	_	_	_	_	_	_	_
Chrysene	70000	_	4280	_	_	_	_	_	784	_	_	_	_	_	_	_	_	-
Dibenzo(a,h)anthracene	700	_	664	_	_	_	_	_	ND (155)	_	_	_	_	_	_	_	_	-
Dibenzofuran	100000	_	685	_	_	_	_	_	ND (155)	_	_	_	_	_	_	_	_	_
bis(2-Ethylhexyl)phthalate	200000	_	ND (145)	-	_	_	-	-	ND (155)	_	<del>-</del>	_	-	_	-		_	-
Fluoranthene	100000	_	7520	-	-	-	-	-	1490	-	-	_	-	-	-	-	-	-
Fluorene	1000000		804	-	-	-	-	-	357	-	-	-	-	-	-	-	-	-
		-		-	-	-	-	-		-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	7000	=	1750	-	-	-	-	-	ND (155)	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	700	-	346	-	-	-	-	-	ND (155)	-	-	-	-	-	-	-	-	-
Naphthalene	4000	-	581	-	-	-	-	-	1710	-	-	-	-	-	-	-	-	-
Phenanthrene	10000	-	6490	-	-	-	-	-	1330	-	-	-	-	-	-	-	-	-
Pyrene	1000000	-	5480	-	-	-	-	-	1070	-	-	-	-	-	-	-	-	-
VPH (μg/kg)																		
C9-C10 Aromatics	100000	-	ND (3800)	-	-	-	-	-	ND (4750)	-	-	-	-	-	-	-	-	-
C5-C8 Aliphatics	100000	-	ND (3800)	-	-	-	-	-	ND (4750)	-	-	-	-	-	-	-	-	-
C9-C12 Aliphatics	1000000	-	ND (3800)	-	-	-	-	-	ND (4750)	-	-	-	-	-	-	-	-	-
·			, ,						• •		-	-	-	-	-	-	-	-
EPH (µg/kg)																		
C9-C18 Aliphatics	1000000	-	102000	-	-	-	-	-	23200	-	-	-	-	-	-	-	-	-
C19-C36 Aliphatics	3000000	-	281000	-	-	-	-	-	63100	-	-	-	-	-	-	-	-	-
C11-C22 Aromatics	1000000	-	157000	-	-	-	-	-	122000	-	-	-	-	-	-	-	-	-

TABLE II SUMMARY OF SOIL QUALITY DATA FORMER ENERGY INTERNATIONAL PARCEL BOSTON, MASSACHUSETTS FILE NO. 06318-502

Client Sample ID:	MassDEP	HA113_0-2'	HA113_0-4'	HA113_2-4'	HA113_6-8'	HA113_8-10'	HA113_10-12	HA113_12-14'	HA113_12-15.5'	HA113_14-15.5'	HA113_15.5-18'	HA-201 S1	HA-201 S1B	HA-201 S2	HA-201 S3	HA-202 S1	HA-202 S2	HA-202 S3
Lab Sample ID:	Reportable	M96200-9	M96199-3	M96200-11	M96200-13	M96200-14	M96200-15	M96200-16	M96199-4	M96200-17	M96200-18	L1203640-01	L1203640-06	L1203640-02	L1203640-03	L1203630-01	L1203630-02	L1203630-03
·	Concentration		M96199-3A										Dup of B201 S1					
Sample Depth (ft):		0-2	0-4	2-4	6-8	8-10	10-12	12-14	12-15.5	14-15.5	15.5-18	0-0.5	0-0.5	1-2	2-3	0-0.5	1-2	2-3
Date Sampled:	(RCS-1)	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	11/29/2010	3/2/2012	3/2/2012	3/2/2012	3/2/2012	3/2/2012	3/2/2012	3/2/2012
Matrix:		Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Organics	Fill	Fill	Fill	Fill	Fill	Fill	Fill
Metals (mg/kg)																		
Antimony	20	-	1.6	-	_	-	-	_	ND (0.45)	-	_	-	-	-	_	-	-	-
Arsenic	20	-	8.5	-	-	-	-	_	5	-	-	-	-	-	_	-	-	-
Barium	1000	-	91.3	-	_	-	-	-	29.8	-	-	-	-	-	-	-	-	-
Beryllium	100	-	0.45	-	_	-	-	-	0.46	-	-	-	-	-	-	-	-	-
Cadmium	2	-	3.3	-	_	-	-	-	ND (0.18)	-	-	-	-	-	-	-	-	-
Chromium	30	-	18.8	-	-	-	-	-	18.5	-	-	-	-	-	-	-	-	-
Lead	300	-	296	-	-	-	-	-	40.4	-	-	-	-	-	-	-	-	-
Mercury	20	-	1	-	-	-	-	-	0.52	-	-	-	-	-	-	-	-	-
Nickel	20	-	21.6	-	-	-	-	-	11.3	-	-	-	-	-	-	-	-	-
Selenium	400	-	1.1	-	-	-	-	-	ND (0.45)	-	-	-	-	-	-	-	-	-
Silver	100	-	ND (0.225)	-	-	-	-	-	ND (0.225)	-	-	-	-	-	-	-	-	-
Vanadium	600	-	29.2	-	-	-	-	-	23.6	-	-	-	-	-	-	-	-	-
Zinc	2500	-	645	-	-	-	-	-	46	-	-	-	-	-	-	-	-	-
TCLP Metals (mg/L)																		
Lead	NA	-	0.28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polychlorinated Biphenyls (PCBs) (µg/kg)																		
Aroclor 1248	2000	ND (60)	-	ND (55)	ND (60)	ND (65)	ND (65)	ND (65)	_	ND (65)	ND (80)	ND (19)	ND (18.8)	ND (19.7)	ND (21.2)	158	233	ND (20.5)
Aroclor 1254	2000	33700	-	ND (55)	ND (60)	396	ND (65)	643	-	ND (65)	ND (80)	121	238	118	ND (21.2)	190	319	ND (20.5)
Aroclor 1260	2000	13100 a	-	ND (55)	ND (60)	285 a	ND (65)	246 a	-	ND (65)	ND (80)	104	161	103	ND (21.2)	125	177	ND (20.5)
Waste Characteristics																		
Corrosivity as pH	NA	_	7.2	_	_	-	-	_	8.1	-	_	_	-	_	_	_	-	-
Cyanide Reactivity (mg/kg)	NA	-	<1.8	-	-	-	-	-	<1.9	-	-	_	-	-	-	-	-	-
Ignitability (Flashpoint) (deg F)	NA	-	>230	-	-	-	-	-	>230	-	-	-	-	-	-	-	-	-
Redox Potential Vs H2	NA	_	391 <sup>b</sup>	-	-	-	-	_	361 <sup>b</sup>	-	_	_	-	-	-	_	-	-
Solids, Percent	NA	80.9	83.5	86.7	81	73.5	73.8	76.8	79.5	76.8	60.6	84	86	84	78	94	85	78
Sulfide Reactivity (mg/kg)	NA	-	<60	-	-	-	-	-	<63	-	-	-	-	-	-	-	-	-

<sup>&</sup>lt;sup>a</sup> Elevated RL due to dilution required for matrix interference.

<sup>&</sup>lt;sup>b</sup> Analysis requested after recommended holding time.

Only compounds detected on the dates indicated are included in this table.

ND (110): Compound not detected; value in

parentheses is one half the laboratory reporting limit.

<sup>.</sup> Compound not detected; value is

the laboratory reporting limit. - : Analysis not conducted.

Bold values indicate an exceedance of the

MassDEP Reportable Concentration in Soil (RCS-1).
VOCs: Volatile Organic Compounds by SW846 8260B

SVOCs: Semi-volatile Organic Compounds by SW846 8270C

VPH: Volatile Petroleum Hydrocarbons by MADEP VPH REV 1.1
EPH: Extractable Petroleum Hydrocarbons by MADEP EPH REV 1

<sup>&</sup>lt;sup>a</sup> Estimated value due to the presence of other Aroclor pattern.

PCBs analyzyed by SW846 EPA Method 8082

TABLE II
SUMMARY OF SOIL QUALITY DATA
FORMER ENERGY INTERNATIONAL PARCEL
BOSTON, MASSACHUSETTS
FILE NO. 06318-502

Client Sample ID:	MassDEP	HA-203 S1	HA-203 S2	HA-203 S3	HA-204 S1	HA-204 S2	HA-204 S3	HA-205 S1	HA-205 S2	HA-205 S3	HA-206 S1	HA-206 S2	HA-206 S3	HA-207 S1	HA-207 S2	HA-207 S3	HA-208 S1	HA-208 S2	HA-208 S3
Lab Sample ID:	Reportable Concentration	L1203630-06	L1203630-07	L1203630-08	L1203632-01	L1203632-02	L1203632-03	L1203632-06	L1203632-07	L1203632-08	L1203636-01	L1203636-02	L1203636-03	L1203636-06	L1203636-07	L1203636-08	L1203638-01	L1203638-02	L1203638-03
Sample Depth (ft):		0-0.5	1-2	2-3	0-0.5	1-2	2-3	0-0.5	1-2	2-3	0-0.5	1-2	2-3	0-0.5	1-2	2-3	0-0.5	1-2	2-3
Date Sampled:	(RCS-1)	3/2/2012	3/2/2012	3/2/2012	3/2/2012	3/2/2012	3/2/2012	3/2/2012	3/2/2012	3/2/2012	3/2/2012	3/2/2012	3/2/2012	3/2/2012	3/2/2012	3/2/2012	3/2/2012	3/2/2012	3/2/2012
Matrix:		Fill																	
VOCs (μg/kg)																			
Benzene	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	4000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	30000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	1000000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylene (total)	300000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SVOCs (µg/kg)																			
Benzoic acid	1000000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3&4-Methylphenol	500000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	=	-	-
Acenaphthene	4000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	1000000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	7000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	7000	_	_	-	_	_	_	_	-	-	_	_	_	_	-	-	_	-	_
Benzo(g,h,i)perylene	1000000	_	_	-	_	_	_	_	-	-	_	_	_	_	-	-	-	-	_
Benzo(k)fluoranthene	70000	_	_	-	_	_	_	_	-	-	_	_	_	_	-	-	-	-	_
Chrysene	70000	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
Dibenzo(a,h)anthracene	700	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
Dibenzofuran	100000	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
bis(2-Ethylhexyl)phthalate	200000	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
Fluoranthene	1000000	_	_		_	_	_	_			_	_	_	_	_		_	_	_
Fluorene	1000000	_	_		_	_	_	_			_	_	_	_	_		_	_	_
Indeno(1,2,3-cd)pyrene	7000	-	-	-	-	-	-	_	-	-	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	7000	-	-	-	-	-	-	_	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	4000	-	-	-	-	-	-	_	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	10000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	1000000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VPH (µg/kg)																			
C9-C10 Aromatics	100000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C5-C8 Aliphatics	100000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C9-C12 Aliphatics	1000000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EPH (μg/kg)								1											
C9-C18 Aliphatics	1000000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	=	-	-
C19-C36 Aliphatics	3000000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C11-C22 Aromatics	1000000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE II SUMMARY OF SOIL QUALITY DATA FORMER ENERGY INTERNATIONAL PARCEL BOSTON, MASSACHUSETTS FILE NO. 06318-502

Client Sample ID:	MassDEP	HA-203 S1	HA-203 S2	HA-203 S3	HA-204 S1	HA-204 S2	HA-204 S3	HA-205 S1	HA-205 S2	HA-205 S3	HA-206 S1	HA-206 S2	HA-206 S3	HA-207 S1	HA-207 S2	HA-207 S3	HA-208 S1	HA-208 S2	HA-208 S3
Lab Sample ID:	Reportable	L1203630-06	L1203630-07	L1203630-08	L1203632-01	L1203632-02	L1203632-03	L1203632-06	L1203632-07	L1203632-08	L1203636-01	L1203636-02	L1203636-03	L1203636-06	L1203636-07	L1203636-08	L1203638-01	L1203638-02	L1203638-03
	Concentration	0.05	4.0	2.2	0.05	4.0	2.2	0.05	4.0	2.2	0.05	4.0	2.2	0.05	4.0	2.2	0.05	4.0	2.2
Sample Depth (ft):	(DOO 4)	0-0.5	1-2	2-3 3/2/2012															
Date Sampled:	(RCS-1)	3/2/2012 Fill																	
Matrix:		FIII																	
Metals (mg/kg)																			
Antimony	20	_	_	_	_	_	-	_	_	_	_	-	_	_	_	-	_	-	_
Arsenic	20	_	_	_	_	_	-	_	_	_	_	-	_	_	_	-	_	-	_
Barium	1000	_	_	_	_	_	-	_	_	_	_	-	_	_	_	-	_	-	_
Beryllium	100	_	_	_	_	_	-	_	_	_	_	-	_	_	_	-	_	-	_
Cadmium	2	_	-	_	_	_	-	_	_	_	_	_	_	_	_	-	_	-	- '
Chromium	30	_	_	_	_	-	-	-	-	_	_	-	_	-	_	-	-	-	-
Lead	300	_	_	_	_	-	-	-	-	_	_	-	_	-	_	-	-	-	- '
Mercury	20	-	-	_	-	-	-	-	-	_	-	-	-	-	-	-	-	-	-
Nickel	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- '
Selenium	400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- '
Silver	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- '
Zinc	2500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TCLP Metals (mg/L)																			
Lead	NA	_	_	_	_	_	-	_	-	_	_	-	_	_	_	-	_	-	-
2000																			
Polychlorinated Biphenyls (PCBs) (µg/kg)																			
Aroclor 1248	2000	155	73.5	ND (18.35)	ND (18.45)	ND (37.55)	ND (21)	4600	ND (18)	ND (18.9)	ND (38.6)	ND (19.35)	ND (18.5)	797	ND (21.1)	ND (21.8)	14000	ND (19.9)	ND (26.95)
Aroclor 1254	2000	150	102	ND (18.35)	67	ND (37.55)	ND (21)	9840	80	ND (18.9)	1030	ND (19.35)	ND (18.5)	1740	ND (21.1)	ND (21.8)	18900	ND (19.9)	ND (26.95)
Aroclor 1260	2000	101	96.1	ND (18.35)	117	ND (37.55)	ND (21)	2110	ND (18)	ND (18.9)	865	ND (19.35)	ND (18.5)	571	ND (21.1)	ND (21.8)	5600	ND (19.9)	ND (26.95)
Waste Characteristics																			
Corrosivity as pH	NA	-	_	_	_	_	-	_	-	_	_	-	_	_	_	-	-	-	_
Cyanide Reactivity (mg/kg)	NA	-	-	-	_	-	-	-	-	-	_	-	-	_	-	-	-	-	-
Ignitability (Flashpoint) (deg F)	NA	-	-	-	_	-	-	-	-	-	_	-	-	_	-	-	-	-	-
Redox Potential Vs H2	NA	_	-	_	_	_	-	_	_	-	_	-	-	_	_	-	_	-	_
Solids, Percent	NA	84	90	87	90	87	78	92	90	87	84	83	87	96	77	75	87	83	60
Sulfide Reactivity (mg/kg)	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

PCBs analyzyed by SW846 EPA Method 8082

<sup>&</sup>lt;sup>a</sup> Elevated RL due to dilution required for matrix interference.

<sup>&</sup>lt;sup>b</sup> Analysis requested after recommended holding time.

Only compounds detected on the dates indicated are included in this table.

ND (110): Compound not detected; value in

parentheses is one half the laboratory reporting limit.

<sup>.</sup> Compound not detected; value is

the laboratory reporting limit. - : Analysis not conducted.

Bold values indicate an exceedance of the

MassDEP Reportable Concentration in Soil (RCS-1).
VOCs: Volatile Organic Compounds by SW846 8260B

SVOCs: Semi-volatile Organic Compounds by SW846 8270C

VPH: Volatile Petroleum Hydrocarbons by MADEP VPH REV 1.1
EPH: Extractable Petroleum Hydrocarbons by MADEP EPH REV 1

<sup>&</sup>lt;sup>a</sup> Estimated value due to the presence of other

Aroclor pattern.

**TABLE III**SUMMARY OF GROUNDWATER QUALITY DATA FORMER ENERGY INTERNATIONAL PARCEL BOSTON, MASSACHUSETTS
FILE NO. 06318-502

Client Sample ID	MassDEP	HA103(OW)
Lab Sample ID	Reportable	L1100274-01
Date Sampled	Concentration	1/6/2011
Depth to Water	Concentration	176/2011
Matrix	(DCC)(( 2)	Groundwater
Watrix	(RCGW-2)	Groundwater
VOCs (mg/L)		
Methyl tert butyl ether	5	0.015
l l l l l l l l l l l l l l l l l l l	5	0.015
EPH (mg/L)		
C9-C18 Aliphatics	5	ND(0.0515)
C19-C36 Aliphatics	50	ND(0.0515)
C11-C22 Aromatics	5	ND(0.0515)
		, ,
PCBs (mg/L)		
Total PCBs		ND
Metals (mg/L)		
Antimony, Dissolved	8	0.002
Arsenic, Dissolved	0.9	ND(0.0025)
Barium, Dissolved	50	0.293
Beryllium, Dissolved	0.2	ND(0.002)
Cadmium, Dissolved	0.004	ND(0.002)
Chromium, Dissolved	0.3	ND(0.005)
Lead, Dissolved	0.01	ND(0.005)
Mercury, Dissolved	0.02	ND(0.0001)
Nickel, Dissolved	0.2	ND(0.0125)
Selenium, Dissolved	0.1	ND(0.005)
Silver, Dissolved	0.007	ND(0.0035)
Thallium, Dissolved	3	ND(0.001)
Vanadium, Dissolved	4	ND(0.005)
Zinc, Dissolved	0.9	ND(0.025)

ND: Not detected

ND(0.0515): Not detected; number in parentheses

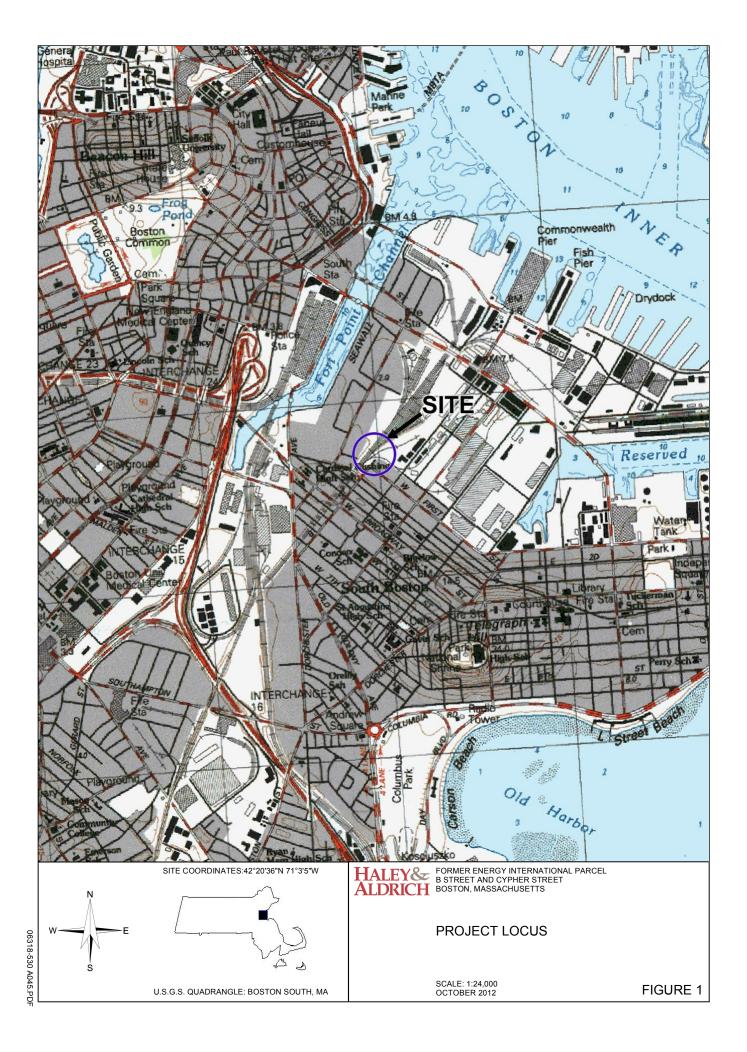
is one-half the laboratory detection limit

VOCs: Volatile Organic Compounds by EPA Method 8260

EPH: Extractable Petroleum Hydrocarbons by MassDEP EPH Method

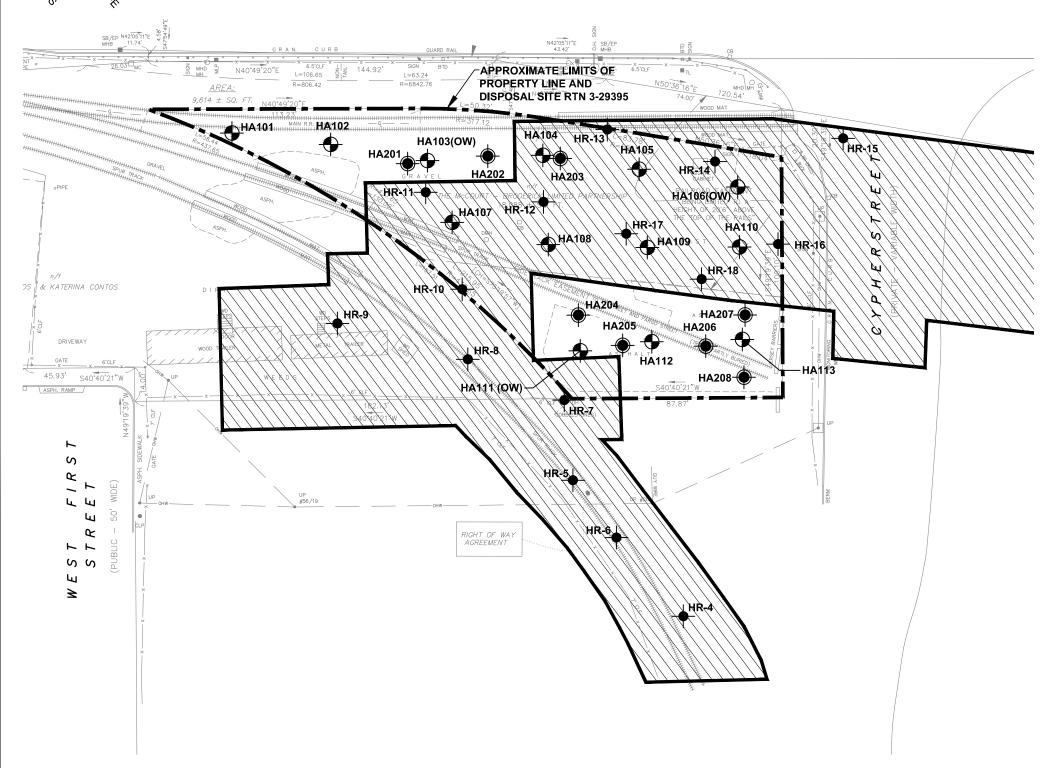
PCBs: Polychlorinated Biphenyls by EPA Method 8082







# SOUTH BOSTON BYPASS ROAD



#### LEGEND:



DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING CONDUCTED BY NEW HAMPSHIRE BORING OF DERRY, NEW HAMPSHIRE ON 2 MARCH 2012 AND MONITORED BY HALEY & ALDRICH PERSONNEL.



DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING CONDUCTED BY GEOLOGIC EARTH EXPLORATION, INC. OF NORFOLK, MASSACHUSETTS ON 29 NOVEMBER TO 2 DECEMBER 2010 AND MONITORED BY HALEY & ALDRICH PERSONNEL. "(OW)" INDICATES GROUNDWATER MONITORING WELL INSTALLED.



DESIGNATION AND APPROXIMATE LOCATION OF CONFIRMATORY POST-EXCAVATION SOIL SAMPLE COLLECTED BY CAMP DRESSER AND MCKEE (CDM)
DURING MARCH/APRIL 1992



AREA OF SOIL REMOVAL AND REMEDIATION PERFORMED IN 1992 IN PREPARATION FOR THE CONSTRUCTION OF THE SOUTH BOSTON HAUL ROAD FOR THE CENTRAL ARTERY/TUNNEL PROJECT.



## NOTE:

1. BASE PLAN TAKEN FROM AN ELECTRONIC FILE TITLED "495-03m\_transmittal.dwg", PREPARED BY DIGITAL GEOGRAPHIC TECHNOLOGIES, INC. RECEIVED BY HALEY & ALDRICH, INC. ON 28 AUGUST 2012.

#### REFERENCE:

 CAMP, DRESSER & MCKEE, INC., "SUMMARY DOCUMENTATION REPORT FOR CLOSE-OUT OF PCB REMEDIATION SITE, SOUTH BOSTON HAUL ROAD, CENTRAL ARTERY/TUNNEL PROJECT," JUNE 1992.





HALEY& FORMER ENERGY INTERNATIONAL PARCEL B STREET AND CYPHER STREET BOSTON, MASSACHUSETTS

SITE AND SUBSURFACE **EXPLORATION LOCATION PLAN** 

SCALE: AS SHOWN OCTOBER 2012



1. SCALED BACKGROUND IMAGE, DATED 19 JUNE 2010, TAKEN ELECTRONICALLY FROM GOOGLE EARTH PRO.

2. LIMITS OF PROPERTY LINE TAKEN FROM AN ELECTRONIC FILE TITLED "495-03m\_transmittal.dwg", PREPARED BY DIGITAL GEOGRAPHIC TECHNOLOGIES, INC. RECEIVED BY HALEY & ALDRICH, INC. ON 28 AUGUST 2012.

1. CAMP, DRESSER & MCKEE, INC., "SUMMARY DOCUMENTATION REPORT FOR CLOSE-OUT OF PCB REMEDIATION SITE, SOUTH BOSTON HAUL ROAD, CENTRAL ARTERY/TUNNEL PROJECT," JUNE 1992.



LEGEND:

DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING CONDUCTED BY NEW HAMPSHIRE BORING OF DERRY, NEW HAMPSHIRE ON 2 MARCH 2012 AND MONITORED BY HALEY & ALDRICH PERSONNEL.

DATA BOX - CONCENTRATION OF POLYCHLORINATED BIPHENYLS (PCBS) IN SOIL (MG/KG) (SUM OF DETECTED VALUES)

0.40 0-0.5' DEPTH 0.22 1-2' DEPTH ND 2-3' DEPTH

"ND" INDICATES NOT DETECTED

DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING CONDUCTED BY GEOLOGIC EARTH EXPLORATION, INC. OF NORFOLK, MASSACHUSETTS ON 29 NOVEMBER TO 2 DECEMBER 2010 AND MONITORED BY HALEY & ALDRICH PERSONNEL. "(OW)" INDICATES GROUNDWATER MONITORING WELL INSTALLED.

DATA BOX - CONCENTRATION OF POLYCHLORINATED BIPHENYLS (PCBS) IN SOIL (MG/KG) (SUM OF DETECTED VALUES)

0-2' DEPTH ND

2-4' DEPTH 6-8' DEPTH 8-10' DEPTH 10-12' DEPTH

"ND" INDICATES NOT DETECTED "-" INDICATES ANALYSIS NOT CONDUCTED

DESIGNATION AND APPROXIMATE LOCATION OF CONFIRMATORY POST-EXCAVATION SOIL SAMPLE COLLECTED BY CAMP DRESSER AND MCKEE (CDM) DURING MARCH/APRIL 1992

DATA BOX - CONCENTRATION OF POLYCHLORINATED BIPHENYLS (PCBS) IN SOIL (MG/KG) (SUM OF DETECTED VALUES)

CONCENTRATION/ DEPTH ND - 2 FT "ND" INDICATES NOT DETECTED

> LABORATORY DETECTION LIMITS WERE NOT PROVIDED BY CDM DURING 1992 SAMPLING BUT WERE TYPICALLY REPORTED AS 0.13 MG/KG OR LOWER ON OTHER SAMPLES

AREA OF SOIL REMOVAL AND REMEDIATION PERFORMED IN 1992 IN PREPARATION FOR THE CONSTRUCTION OF THE SOUTH BOSTON HAUL ROAD FOR THE CENTRAL ARTERY/TUNNEL PROJECT.

APPROXIMATE LIMITS OF PROPERTY LINE AND DISPOSAL SITE RTN 3-29395

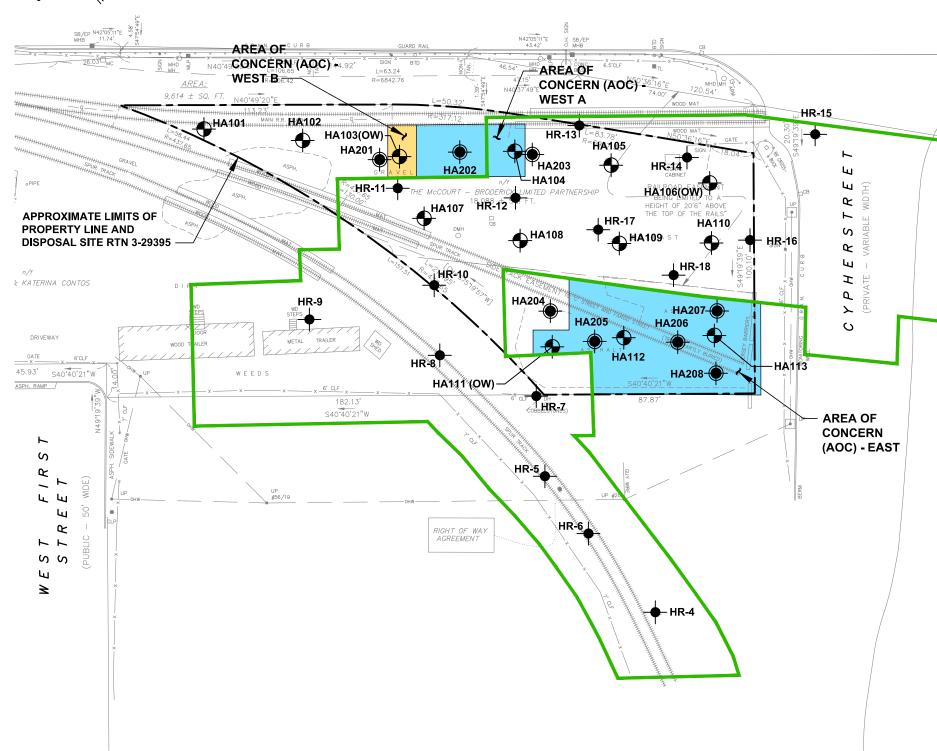
HALEY& FORMER ENERGY INTERNATIONAL PARCEL B STREET AND CYPHER STREET BOSTON, MASSACHUSETTS

TOTAL PCB CONCENTRATIONS IN SOIL

SCALE: AS SHOWN OCTOBER 2012



# SOUTH BOSTON BYPASS ROAD



LEGEND:

HA201

DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING CONDUCTED BY NEW HAMPSHIRE BORING OF DERRY, NEW HAMPSHIRE ON 2 MARCH 2012 AND MONITORED BY HALEY & ALDRICH PERSONNEL.

DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING CONDUCTED BY GEOLOGIC EARTH EXPLORATION, INC. OF NORFOLK, MASSACHUSETTS ON 29 NOVEMBER TO 2 DECEMBER 2010 AND MONITORED BY HALEY & ALDRICH PERSONNEL. "(OW)" INDICATES GROUNDWATER MONITORING WELL INSTALLED.

DESIGNATION AND APPROXIMATE LOCATION OF CONFIRMATORY POST-EXCAVATION SOIL SAMPLE COLLECTED BY CAMP DRESSER AND MCKEE (CDM) DURING MARCH/APRIL 1992

AREA OF SOIL REMOVAL AND REMEDIATION PERFORMED IN 1992 IN PREPARATION FOR THE CONSTRUCTION OF THE SOUTH BOSTON HAUL ROAD FOR THE CENTRAL ARTERY/TUNNEL PROJECT.



2 FEET DEPTH OF REMEDIAL EXCAVATION

4 FEET DEPTH OF REMEDIAL EXCAVATION

APPROXIMATE LIMITS OF PROPERTY LINE AND DISPOSAL SITE RTN 3-29395

# NOTE:

1. BASE PLAN TAKEN FROM AN ELECTRONIC FILE TITLED "495-03m\_transmittal.dwg", PREPARED BY DIGITAL GEOGRAPHIC TECHNOLOGIES, INC. RECEIVED BY HALEY & ALDRICH, INC. ON 28 AUGUST 2012.

#### REFERENCE:

CAMP, DRESSER & MCKEE, INC., "SUMMARY DOCUMENTATION REPORT FOR CLOSE-OUT OF PCB REMEDIATION SITE, SOUTH BOSTON HAUL ROAD, CENTRAL ARTERY/TUNNEL PROJECT,"

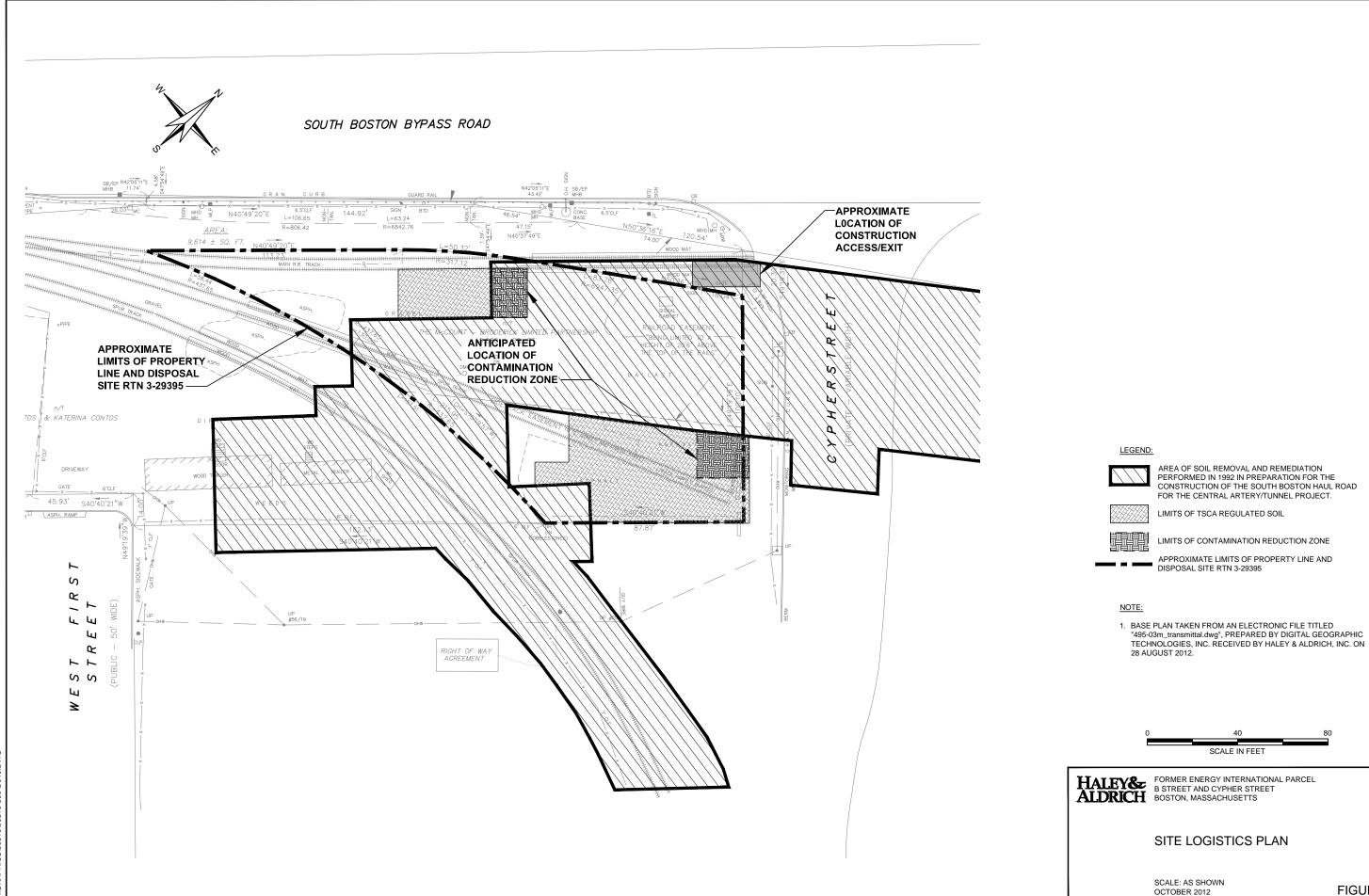




HALEY FORMER ENERGY INTERNATIONAL PARCEL B STREET AND CYPHER STREET ALDRICH BOSTON, MASSACHUSETTS

PCB REMEDIATION EXCAVATION PLAN

SCALE: AS SHOWN OCTOBER 2012



# APPENDIX A

Correspondence

(Copies of Owner Certification)

Haley & Aldrich, Inc. 465 Medford St. Suite 2200 Boston, MA 02129





26 October 2012 File No. 06318-530

The McCourt-Broderick Limited Partnership c/o The McCourt Company, Inc. 9420 Wilshire Boulevard, Suite 300 Beverly Hills, CA 90212

Subject: Subject: Owner Certification

Self-Implementing Plan

Former Energy International, Inc.

Boston Tax Assessor Parcel Number 06-2771-100

Cypher Street

South Boston, Massachusetts

Release Tracking Number (RTN) 3-29395

## Dear Mr. Regolino:

In connection with the Self-Implementing Plan for the above referenced property, Haley & Aldrich, Inc. (Haley & Aldrich) will maintain all sampling plans, sample collection procedures, sample preparation procedures, extraction procedures, and instrumental/chemical analysis procedures used to assess or characterize PCB contamination within the TSCA regulated areas. The information is on file at the offices of Haley & Aldrich, 465 Medford Street, Suite 2200, Boston, MA 02145 and is available for EPA inspection upon request.

Sincerely yours,

HALEY & ALDRICH, INC.

Cole E. Worthy III, LSP

Vice President

 $G:\ 06318\ 530$  -  $SIP\ Appendix\ A$  - Certification  $\ 26\ October\ 2012.docx$ 

# Owner's Certification - 40 CFR 761.61(a)(3)(i)(E)

Self-Implementing Cleanup and Disposal Plan Former Energy International, Inc. Boston Tax Assessor Parcel Number 06-2771-100 Cypher Street South Boston, Massachusetts Release Tracking Number (RTN) 3-29395

The parties below certify that all sampling plans, sample collection procedures, sample preparation procedures, extraction procedures, and instrumental/chemical analysis procedures used to assess or characterize the PCB contamination within the TSCA regulated areas at the Former Energy International, Inc. Site are on file at the offices of Haley & Aldrich, Inc., 465 Medford Street, Suite 2200, Boston, MA 02145, and are available for EPA inspection upon request.

The McCourt-Broderick Limited Partnership c/o The McCourt Company, Inc. (Owner and Party Potentially Conducting Cleanup):

Name, as (TITLE) and not individually

AUSTIN P. REGOLINO

Oct. 26, 2012

EXEC. VICE PRES.

 $G: \label{locality} G: \label{locality} G: \label{locality} O6318 \label{locality} SIP\_Owners\ Certification\_D1\_clean.doc$ 

APPENDIX B

**Boring Logs** 

I	IAL LD	EY& RICI	Z I				GEO	PROBE REPORT	г		В	rin	g N	lo.		H	<b>41</b> (	01	
Clie	ject ent ntracto	THE	MCC	OURT-E	BROD	ERIC		L PARCEL, BOSTON, MA ED PARTNERSHIP N, INC.	A	S	tart	t No	. 1 De	cem	1 iber	2,			
			(	Casing	Sam	pler	Barrel	Drilling Equipment	t and Procedures		inis Irille			cem Jaco		2,	201	U	
Тур	е				G	j		Rig Make & Model: Georg	probe	H	I&A	Rep				ods	on		
Insid	de Diar	neter (i	n.)		2.	0		Bit Type: Drill Mud: None		I	leva atu	ation		R.	seto	n C	ity 1	Raci	<u>_</u>
Han	nmer V	Veight (	lb)			-	-	Casing: None			oca.		A	s pl					
Han		all (in.)	١			-	-	Hoist/Hammer: Automati PID Make & Model:	ic Hammer				0	f gr	id				
(£)	lows	No. (.)	e Ê	n h (ft)	Symbol		VISU	IAL-MANUAL IDENTIFICATION	N AND DESCRIPTION	_	rave	_	San	d				Tes	it_
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Syr			(Color, GROUP NAME, max structure, odor, moisture, optic GEOLOGIC INTERPRE	onal descriptions	esico J %	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	Strength
- 0 - -	P U S	G1 42	0.0 4.0			1	e: Began bo oad ballast	oring (0.0 ft) below approximate.	ppm										
-	Н				SP/ SW		1.3 in., no	well graded to poorly graded S structure, no odor, dry to moi		ers	5 15	5 15	20	40	5				
- - 5 -	P U S	G2 22	4.0 8.0					0 ft approximately 30% cinder rick and concrete fragmentsFILL-											
-	H					Note	e: 6.0 to 6.	8 ft black silty SAND (SM), m	PID = 0.0/0.0 project.	ppm									
-									PID = 11.5/0.0	ppm									
- - - 10 -	P U S H	G3	8.0 12.0	8.0	SP/ ML	dark petro	gray/black oleum-like	lack (layered) poorly graded S. sandy SILT (ML), trace fabri odor from black layers, strong 0% peat and wood fragments the	c, brick specks, slight hydrogen sulfide odor from hroughout		T		10 5	85 25	5 70	R N	L	L	
-								-FILL-	PID = 0.5/0.0										
-	P U S H	G4	12.0 16.0	12.0	OL/ OH	distu and	irbed slight concrete sp	vn ORGANIC SOIL with sand hydrogen sulfide and petroleu lecks and fragments, 5% wood al-like material, shell specks and	(OL-OH), mps 1.0 in. (woo m-like odor, wet, trace brick and peat fibers, trace ash, d fragments	d),		-	5	10	80	N	L	L	
- 15 -								-COHESIVE FII	PID = $0.0/0.0$ p LL- PID = $0.0/0.0$ p										
-	P U S	G5	16.0 20.0	16.0	SP- SM			vn poorly graded SAND with s dor, wet, trace brick and concre			+	10	25	55	10				
-	Н							-FILL-	PID = 0.0/0.0	ppm									
				19.5	CL	"Ha	rd" (to touc	ch) olive gray to yellow lean C	LAY (CL), mps 1 mm,		+			10	90	N	L	L	
20 -				20.0			nated, no o		-										
								BOTTOM OF EXPLORAT											
		Wa	ater Le	evel Data	1a			Sample ID	Well Diagram			Sun	ıma	ırv					
D	Date Time Elapsed Depth (ft) to: O - Open End Rod											n (ft)			20.0	)			
			Time	(hr.) of C	asing	of Hole		T - Thin Wall Tube U - Undisturbed Sample	Filter Sand	Rock C		d (ft	•						
								S - Splitspoon Sample G - Geoprobe	Grout Concrete	Sample <b>Sorin</b> ç		Ο.	G		HA	10	1		
Field	d Tests	 ;:	1				S - Slow 1		ity: N - Nonplastic L - Low	M - Medi	um	H - F							
		ximum p		e size (m	ps) is d	determ	ined by di	rect observation within the lir							ery I	ligh			
		No	te: S	oil ident	tificati	on ba	sed on vi	<u>sual-manual methods of th</u>	ne USCS as practiced by	Haley 8	<u> </u>	<u>dric</u>	h, Ir	ıc.					

I	IAL LD	EY& RICI	z H				GEO	PROBE REPOR	г		E	Зоі	rinç	g N	lo.		HA	<b>\1</b> (	)2	
Clie	ject ent ntracto	THE	MCC	OURT-	BROD	ERIC		L PARCEL, BOSTON, MA ED PARTNERSHIP N, INC.	A		Sh Sta	art	No.	1 Dec	cem	1 ber	2, 2			
				Casing	Sam	pler	Barrel	Drilling Equipmen	t and Procedures			iish Iler		Dec D. J			2, 2	2010	J	
Тур	е				(	j .		Rig Make & Model: Georg	probe		Н8	A F	Rep.				odsc	n		
Insid	de Diar	meter (i	in.)		2.	.0		Bit Type: Drill Mud: None				evat tum			Rο	stoi	n Ci	tv I	Rase	2
Han	nmer V	Veight (	(lb)		-	-	-	Casing: None	:- II		_	cati		A			ed-			
Han		Fall (in.	)		-	-	-	Hoist/Hammer: Automat PID Make & Model:	ic Hammer					of	gri	id				
Œ	Blows in.	No.	£	# # # # # # # # # # # # # # # # # # #	Symbol		VISU	IAL-MANUAL IDENTIFICATIO	N AND DESCRIPTION		Gra	ivel		Sanc	į			SS	Tes	t
Depth (ft)	Sampler B per 6 ir	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change	USCS Sy			(Color, GROUP NAME, max structure, odor, moisture, opti GEOLOGIC INTERPRI	onal descriptions		% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Tonghness	Plasticity	Strength
- 0 - -	P U S H	G1 39	0.0 4.0		GP			rly graded GRAVEL with sand erate degraded fuel/petroleum-		) ppm										
-				2.2	SM	_		-FILL-		,		_			_	_	_	-4	_	
-					SIVI			vn silty SAND with gravel (SM coleum-like odor, moist, trace												
- - 5 -	P U S	G2 30	4.0 8.0					0 ft wet with sheen. Approxim bable perched water?	ately 35% cinders, ash and $PID = 60.8/0.4$											
-	Н				SM	SPE	CKS, 40%	k 50% CINDERS, ASH, CLIN silty SAND, 10% BRICK FR	AGMENTS and SPECKS,											
						inode	erate degra	ded fuel/petroleum-like odor,	PID = $28.0/0.0$	) ppm										
-	P U S H	G3 27	8.0 12.0			8.0 t	o 12.0 ft -	Similar to above except faint of	odor $PID = 8.0/0.0$	) ppm										
- 10 -	11							-FILL-	PID = 2.3/0.0	) ppm										
				12.0				cave in" and dropping of perch inferred. May be impacted gro												
	P U S	G4 33	12.0 16.0		OL- OH	struc		n.) to olive ORGANIC SOIL ( aded fuel/petroleum-like odor a bottom		en										
	Н								PID = 2.3/0.0	) ppm										
- 15 -								-ORGANIC DEPO	PID = $0.0/0.0$	) ppm										
-				16.0				BOTTOM OF EXPLORAT	ΓΙΟΝ 16.0 FT									+		
		147	-t!	0.45				Γ .	Mail Diagon			$\bigsqcup_{}$								_
	oto.		Fla	evel Dat	Dept	th (ft)		Sample ID O - Open End Rod	Well Diagram  Riser Pipe	Overb	nurc		Sum (ft)			16.0	`			
	ate	Time		. /b √ B		Bottom of Hole		T - Thin Wall Tube U - Undisturbed Sample	Screen Filter Sand Cuttings	Rock	Co		` '			10.0	,			
								S - Splitspoon Sample G - Geoprobe	Grout Concrete	Samp		No	).	G		HA	10	2		
Field	d Tests	: ::					S - Slow N		Bentonite Seal ity: N - Nonplastic L - Low rength: N - None L - Low						1_\/-	an, I	liah			
†No	te: Ma			le size (n	ıps) is (	<u>determ</u>	ined by di	n <u>H - High</u> Dry Sti rect observation within the li sual-manual methods of th	mitations of sampler size.							∍ı y Γ	iigH			
		140	۱			Du	OII VI	manaum moundus di u	sees as practiced b	,u.c	<u>,                                     </u>			.,	<u> </u>					

A	IAL LD	EY& RICI	z H				GEO	PROBE REPOR	Г		E	3or	inç	g N	lo. I	ΉA	103	3 ((	W
Proje Clier Con		THE	MC	COU	RT-BROI	DERIC		L PARCEL, BOSTON, MA ED PARTNERSHIP N, INC.	A		She Sta	art	No.	1 Dec		2 ber	1, 2		
				Cas	ing Sar	npler	Barrel	Drilling Equipmen	t and Procedures		Fin Dril				cemt Jaco		1, 2	010	
Туре	9					G		Rig Make & Model: Georg	probe				Rер.	,			odsoi	n	
Insid	e Dian	neter (i	in.)		2	2.0		Bit Type: Drill Mud: None				evati tum			14. Bos		ı Cit	v B	ase
Ham	mer V	Veight (	(lb)				-	Casing: None Hoist/Hammer: Automat	io Uammar			catio			s pla	ann	ed-c	•	
		all (in.	)				-	PID Make & Model:	ic Hammer					of	gri	d —			
Œ	Slows J.	.) N .) (:	ച €	ram	E 9 E	Symbol	V	ISUAL-MANUAL IDENTIFICAT	TION AND DESCRIPTION		Gra	_		Sanc	t	-		eld T တွ	
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample	Well Diagram	Stratum Change Elev/Depth (ft)	USCS Sy		(Color, GROUP NAME, r structure, odor, moisture, c GEOLOGIC INTERF	ptional descriptions		% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	loughness	Plasticity
0 -	P U S	G1 40	0.0 4.0	1 N	Δ Δ Δ	SM	Brown sil odor, mo	Ity SAND with gravel (SM), mist	$\frac{1}{1} \text{pps } 0.9 \text{ in., no structure, 1}$ $PID = 1.5/0$										
	Н			Δ,	Δ			-FILL-											
					11.9 2.2	GP SM		rly graded GRAVEL with sand, no odor, dry	•	, /	45	30 10	15 30	5 25	5 20	15	-	-	- +
								y silty SAND (SM), mps 0.5 in lers and clinkers, trace coal-lik											
. 5 –	P U S H	G2 37	4.0					-FILL-	PID = 6.3/0	.0 ppm									
									PID = 3.5/0	.0 ppm									
_	P U S H	G3 42	8.0 12.0				Note: Sli <sub>į</sub>	ght petrochemical-like odor fro	om 8.0 to 11.8 ft. PID = 12.7/0	.0 ppm									
10 -									PID = 25.3/0	.0 ppm									
		W	ater I	evel				Sample ID	Well Diagram			S	Sumi	ma	ry	<u>=</u>	$\stackrel{=}{=}$		=
Da	ate	Time		apsec le (hr	Dattana	oth (ft) Botton of Hole	n Water	O - Open End Rod T - Thin Wall Tube U - Undisturbed Sample S - Splitspoon Sample	Riser Pipe Screen Filter Sand Cuttings	Overt Rock Samp	Cor		` '	G		0.0			
								G - Geoprobe	Grout Concrete Bentonite Seal	Bori	ng			F		103	3 (C	W	)
El-1-	l Tests			ויום	atanev. 🗅	_ Danid	S - Slow 1	\l_None Disctio	ity: N - Nonplastic L - Lov	M M. M.	مرازريه	ո ⊔	1 - 14	iah					

I-	IAL LD	EY&	z H				GEOPROBE REPORT	F	ile l	No.	<b>N</b> C	631	HA 8-50 of	)2	3 (C	W)
				a	(#	log	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION	_	avel	_	San		]	F		Test
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft	Well Diagra	Stratum Change Elev/Depth	USCS Sym	(Color, GROUP NAME, max. particle size <sup>†</sup> , structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity
							-FILL-									
=	P U S H	P G4 12.0	Light red yellow poorly graded GRAVEL with silt and sand (GP-GM), mps 1.0 in., no structure, no odor, wet Light red yellow poorly graded GRAVEL with silt and sand (GP-GM), mps 1.0 in., no structure, no odor, wet -FILL-	10	60	10	5	5	10							
_			0.8 13.3 0.6 13.5	SM/	PID = 10.6/0.0 ppm  2-in. layer of SAND, CINDERS, ASH, possible sheen, moderate  petrochemical-like odor  -FILL-		_	_5	20	65 10	10 90	 N	L	L		
- - 15 -			-0.9	ОН	Dark gray (probably stained) ORGANIC SOIL (OL/ OH), mps 1 mm, no structure, moderate petrochemical-like odor, wet, trace shell specks and peat fibers  PID = 4.0/0.0 ppm											
					15.0	OL/ OH	Similar to above except olive (no staining), moderate hydrogen sulfide odor									
-	P U S H	G5 48	(i)	-ORGANIC DEPOSITS- $PID = 0.0/0.0 \text{ ppm}$												
<del>-</del>		G5 16.0 G5 48 20.0 G5 48 20.0 G5 G5 G5 48 20.0 G5		PID = 0.0/0.0  ppm												
- 20 -					-5.9 20.0		BOTTOM OF EXPLORATION 20.0 FT									+
							Note: Installed 2-in. observation well in completed borehole to 16.0 ft.									
	NOTE:	Soil id	lentifica	tion b	ased on v	visual-ı	manual methods of the USCS as practiced by Haley & Aldrich, Inc.	В	ori	ng	No		HA	103	3 (C	OW)

Project Client FORMER ENERGY INTERNATIONAL PARCEL, BOSTON, MA THE MCCOURT-BRODERICK LIMITED PARTNERSHIP GEOLOGIC-EARTH EXPLORATION, INC.    Casing   Sampler   Barrel   Drilling Equipment and Procedures   Driller   Dr	2010 son City Base
Type	son City Base
Inside Diameter (in.)     2.0     Drill Mud: None   Casing: None   Hoist/Hammer: Automatic Hammer   Hoist/Hammer: Automatic Hammer   Drill Mud: None   Casing: None   Drill Mud: None   Casing: None   Drill Mud: None   D	City Base
Inside Diameter (in.)     2.0     Drill Mud: None   Casing: None   Hammer Fall (in.)             Hoist/Hammer: Automatic Hammer   Hoist/Hammer: Automatic Hammer: Automatic Hammer: Automatic Hammer   Hoist/Hammer: Automatic Hammer: Automatic Ha	
Hammer Weight (lb) Hammer Fall (in.)	
Hammer Fall (in.)    PID Make & Model:   Of grid    VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION   Gravel   Sand   Of grid    VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION   Gravel   Sand   Of grid    VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION   Of grid   Of grid   Of grid    VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION   Of grid   O	-center
P G1 0.0 U 34 4.0 S H Structure, no dor, dry PID = 0.0/0.0 ppm PID	
P G1 0.0 U 34 4.0 S H Structure, no dor, dry PID = 0.0/0.0 ppm PID	Field Test
P G1 0.0 U 34 4.0 S H Structure, no dor, dry PID = 0.0/0.0 ppm PID	Toughness
FILL- PID = 0.0/0.0 ppm  P G2 4.0 U 24 8.0 S H  Yellow brown to gray CINDERS and ASH, trace clinkers, approximately 20% silty SAND, layered, no odor, moist, trace coal-like material, clay fragments  -FILL-	
5 - U S H 24 8.0 4.7 SM Yellow brown to gray CINDERS and ASH, trace clinkers, approximately 20 30 20 20 10 20% silty SAND, layered, no odor, moist, trace coal-like material, clay fragments -FILL-	
-FILL-	
P G3 8.0 U 35 12.0 8.5 SM Gray to light brown silty SAND with gravel (SM), mps 1.0 in., no structure, no odor, moist, approximately 15% cinders and ash -FILL-	
10.0 SM Gray to black silty SAND (SM), approximately 50% black ash and coal-like mater, no odor, moist to wet below 10.5 ft  PID = 1.2/0.0 ppm	
P G4 12.0 U 16.0 Black sandy ELASTIC SILT/lean CLAY, 10% shell specks, brick specks, coal-like specks, wood fibers/fragments, moderate industrial fuel-like odor, wet	
H  OL/ OH  Gray at top-olive ORGANIC SOIL (OL/OH), mps 5 mm, no structure, moderate hydrogen sulfide odor, wet, trace shell specks, fragments and peat fibers  PID = 0.0/0.0 ppm  PID = 0.0/0.0 ppm	
-ORGANIC DEPOSITS-	
BOTTOM OF EXPLORATION 16.0 FT	
Water Level Data Sample ID Well Diagram Summary	
Date Time Elapsed Time (hr.) Bottom of Casing of Hole Time (hr.) Depth (ft) to: O - Open End Rod T - Thin Wall Tube U - Undisturbed Sample S - Splitspoon Sample O - Open End Rod T - Thin Wall Tube U - Undisturbed Sample S - Splitspoon Sample O - Open End Rod T - Thin Wall Tube Screen Filter Sand Cuttings Grout Samples G4	
G - Geoprobe Concrete Boring No. HA10	
Field Tests: Dilatancy: R - Rapid S - Slow N - None Plasticity: N - Nonplastic L - Low M - Medium H - High Dry Strength: N - None L - Low M - Medium H - High V - Very High	04
tote: Maximum particle size (mps) is determined by direct observation within the limitations of sampler size.  Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.	

A	LAL LD	EY& RICI	z H			GEC	PROBE REPORT			В	ori	ng	No	).	Н	A1	.05	
Proje Clier Con		THE	MCC	COURT-	BROD		L PARCEL, BOSTON, MA ED PARTNERSHIP N, INC.		!	File I Shee	et N	lo.	1 o	mbe	r 1,			_
				Casing	Sam	pler Barrel	Drilling Equipment and	d Procedures		Finis Drille				mbe: cobs		201	10	
Турє	)					}	Rig Make & Model: Geoprob	e	ا	H&A	Re	ер.	N	И. Г	ods	on		
nsid	e Dian	neter (i	n.)		2.	0	Bit Type: Drill Mud: None			Elev Datu		on	ī	Bosto	on C	ity	Ra	0
Ham	mer V	/eight (	(lb)		-		Casing: None Hoist/Hammer: Automatic H		<b>—</b>	Loca		n		plan		_		
Ham		all (in.	)		-	- <b>-</b>	PID Make & Model:	ammer					of g	grid				
£	lows J.	No. in.)	£e	# (#)	Symbol	VIS	UAL-MANUAL IDENTIFICATION AN	ID DESCRIPTION		Grave	-	$\overline{}$	and			Field		S
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change	USCS Syr		(Color, GROUP NAME, max. par structure, odor, moisture, optional GEOLOGIC INTERPRETAT	descriptions		% Coarse		% Coarse	% Medium	% Fines	Dilatancy	Toughness	Plasticity	
0 -	P U S	G1 32	0.0 4.0		GW	Light gray bro	own well graded GRAVEL with sand odor, dry	PID = 0.0/0.0		35 3	_	-						1
	Н						-RAILROAD BALLAS	Γ-										
				2.3	SM		y SAND with gravel (SM), mps 1.1 10% cinders, ash and clinkers/coal-li			2	0 3	30 2	5 1	0 15	-		+-	
5 -	P U S H	G2 33	4.0 8.0	4.5	GP- GM	Gray brown p	oorly graded GRAVEL with silt and odor, moist	PID = 0.0/0.0 sand (GP), mps 1.0 in.		10 4	0 1	10 1	0 2	0 10	, -		<u> </u>	
				6.5		<del>\</del>	-FILL- LAY 6.2 to 6.5 ft.  D yellow brown CINDERS, ASH, tra	$\underline{PID} = 0.0/0.0$ ace clinkers, no structur	·/	1	0 3	35 2	5 2	0 10	<del> </del> -			_
	P U S H	G3 41	8.0 12.0	1				PID = 0.0/0.0	ppm									
10 –					ML/OL/O		2.0 in. black sandy SILT/ORGANIO oleum-like odor, wet	C SOIL (ML/OL/OH), $PID = 0.0/0.0$	ppm									
	P U S H	G4 48	12.0 16.0	1	OL/ OH	Olive ORGAN	-FILL- NIC SOIL (OL/OH), mps 2 mm, no	PID = 0.0/0.0 structure, no odor, wet						100	0 N	L	L	
15 –							-ORGANIC DEPOSITS	PID = 0.0/0.0	ppm									
				16.0			BOTTOM OF EXPLORATION	V 16.0 FT	_		+		-		-	$\vdash$	_	-
										$\perp$					<u>L</u>	<u>L</u>	L	
		W		evel Dat		th (ft) to:	Sample ID	Well Diagram Riser Pipe	<u> </u>				nary				_	_
Da	ate	Time			ottom Casing	Bottom of Hole Water	U - Undisturbed Sample	Screen Filter Sand	Overbu Rock ( Sample	Core	•	. ,	G4	16.	U			
							C Cooprobo	Grout	Borin		lo.	1	<u> </u>	H	A1(	05		_
								AND DOTTOTING COM			_							

H	IAL LD	EY& RICI	z H				GEO	PROBE REPORT	Г		E	Bor	inç	g N	lo.	HA	110	6 (	( <b>O</b> )	V
Proj Clie	ect	FORI	MER MC	COU	RT-BROI	DERIC		L PARCEL, BOSTON, MA ED PARTNERSHIP N, INC.	A		File She Sta	eet rt	No.	. 1 Dec	em	2 ber	1,			_
				Cas	ing Sar	mpler	Barrel	Drilling Equipment	and Procedures		Fin Dril				cem Jaco		1,	201	.0	
Гуре	<del></del>					G		Rig Make & Model: Geop	probe		H&						ods	on		
		neter (i	in.)		.   2	2.0		Bit Type: Drill Mud: None			Ele				15		_		_	
lam	mer V	Veight	(lb)		.   -		-	Casing: None			Dat			A			n C ned-	_		·C
-lam	nmer F	all (in.	)				-	Hoist/Hammer: Automati PID Make & Model:	c Hammer						gri		ica	0011		
£	Blows in.	in.)	n <del>í</del>	- E	€	Symbol	v	ISUAL-MANUAL IDENTIFICAT	ION AND DESCRIPTION		Gra	_		Sano	t				Te	- st
Depth (ft)	Sampler Bl per 6 in	Sample N & Rec. (ii	Sample	Well Diagram	Stratum Change Elev/Depth (ft)	USCS Sym		(Color, GROUP NAME, rr structure, odor, moisture, o GEOLOGIC INTERP	ptional descriptions		% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	
0 +	P	G1 33	0.0	1 /	Δ	GW- GM	I	gray well graded GRAVEL wi	,	), mps	20	35	10	10	15	10				Ī
	U S H	33	4.0	۵		OW	1.3 m., n	-PROBABLE RAILRO	PID = 4.2/0	.0 ppm										
					13.2 2.0	SM	Yellow b	rown to gray brown silty SANI	O with gravel (SM), mps	0.5	H								┝	ł
								ructure, no odor, moist to dry	PID = 0.0/0											
					12.2	CL	Yellow b odor, fill	rown sandy lean CLAY (CL), i			- 1	-	5	10	20	65	N	L	L	
ŀ	P	G2	4.0		11.0 4.2			-COHESIVE	FILL-		$\perp \downarrow$	_	_						L.	
	U S	44	8.0		4.2	SM	Prown a	ray yellow silty SAND (SM), 40	PID = 1.0/0	.0 <u>ppm</u> /										
5 -	H				9.9			, no odor, moist	0 % chiders and asii,iio										L.	
					5.3	SM		te black CINDERS and ASH, te black CINDERS and odor, moist -FILL-	race clinkers, 10 to 15 %											
								-I ILL-	PID = 4.2/0	.0 ppm										
	P	G3	8.0		7.7 7.5	SM/ CL		o above except 15% yellow lear fragments, 5 to 10% coal-like n -FILL-		and			_						<u> </u>	f
	U S H	19	12.0					TILL	PID = 8.5/0	.0 ppm										
10 –					5.2 10.0	SM/ CL		o above except black stained, m wet, 10% wood fragments, 10%		brick		_								
	P	G4	12.					-FILL-												
	U S H	48	16.0	- 4					PID = 0.0/0	.0 ppm										
L		W	ater l	_∷⊨ _evel	Data			Sample ID	Well Diagram			 S	Sum	ma	rv				<u></u>	L
Dء	ate	Time	Ela	apsec	Dep	oth (ft)		O - Open End Rod	Riser Pipe	Over	burd					20.0	)			-
		11110	Tim	e (hr	Bottom of Casing			T - Thin Wall Tube U - Undisturbed Sample	Screen Filter Sand	Rock	Cor		` '							
								S - Splitspoon Sample G - Geoprobe	Cuttings Grout Concrete Bentonite Seal	Samp		No	).	G		10	6 (	OV	V)	_
-ield	l Tests	:					S - Slow I		ity: N - Nonplastic L - Lov						,		ı. ,			-
Not	e Ma	ximum	partio			determ	M - Mediur nined by di nsed on vi	n H - High Dry Str rect observation within the lin	ength: N - None L - Low nitations of sampler size		ulum	H -	High	n V	- V6	ery F	ngh		_	-

	TAT	EY8	7					В	ori	ng	No	<b>)</b> .	HA	106	6 (O	W)	)
1	HAL ALD	RIC	Ĥ				GEOPROBE REPORT	F S	ile N hee	No. et No	0 0.	6318 2	8-50 of	2			
æ	swo .	ð. (-	e <del>(∓</del>	Jam	£	loqu	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION		vel		San	t		F	ield	Tes	t
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Well Diagram	Stratum Change Elev/Depth (ft)	USCS Symbol	(Color, GROUP NAME, max. particle size <sup>†</sup> , structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	Strength
				:			-FILL-										$\exists$
- 15					0.7 14.5	OL/ OH	Olive gray to gray below approximately 13.5 ft ORGANIC SOIL (OL/OH), mps 8 mm (shell fragment), no structure, moderate hydrogen sulfide odor, wet, 10% shell specks and peat fibers  PID = 0.0/0.0 ppm						100	N	L	L	
-	P U S H	G5 48	16.0 20.0				PID = 0.0/0.0  ppm										
-							-ORGANIC DEPOSITS- PID = 0.0/0.0 ppm										
- 20					-4.8 20.0		BOTTOM OF EXPLORATION 20 FT										

H A	IAL LD	EY& RICI	z H			C	SEOF	PROBE REPOR	т		E	301	ring	g N	lo.		H	<b>41</b>	07	
Proje Clier	ect	FORI THE	MER MCC	COURT	Γ-BROD		LIMITE	PARCEL, BOSTON, M D PARTNERSHIP , INC.	<sup>r</sup> A		Sta	eet irt	No.	1 Vov	emb	1 oer	30,			_
				Casing	g San	npler B	arrel	Drilling Equipmer	nt and Procedures		Fin Dril				emb Jaco		30,	20	10	
Туре	;				-	G		Rig Make & Model: Geo	pprobe		Н&	ΑF	Rep.				odso	on		
nside	e Dian	neter (i	n.)		2	.0		Bit Type: Drill Mud: None			Ele		ion		Do	oto	n C	:+.,	Dog	-
Ham	mer V	Veight (	(lb)				_	Casing: None				cati		A	s pl					_
		all (in.	)		-			Hoist/Hammer: Automa PID Make & Model:	tic Hammer					of	f gri	ld				
£	ows	آ.) آ.)	o £		epth (ft) Symbol		VISUA	AL-MANUAL IDENTIFICATIO	ON AND DESCRIPTION		Gra	vel	_	Sand			F	ield တ	Te	s T
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum	Elev/Depth USCS Syn		\$	(Color, GROUP NAME, ma structure, odor, moisture, opt GEOLOGIC INTERPR	ional descriptions		% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	•
0 -	P	G1	0.0	_		1	_	d GRAVEL and BRICK frag	ments, 40% sand and silt,	trace								<u> </u>	Ē	İ
	U S		4.0			ash, cin	ders		PID = 0.0/0	.0 ppm										
	Н							-RAILROAD BAL	LLAST-											
				2.	.5				DID 0.0%	0 ====										
				1	SM	Dark gr	ay browi	n silty SAND (SM), mps 1.2	$\frac{\text{PID} = 0.0/0}{\text{c in., no structure, no odor}}$		5	5	20	35	15	20				
						moist, 2	20% cind	ers and ash	PID = 0.0/0	.0 ppm										
t	P	G2	4.0	4.	$^{.0}$ $\overline{SM}$	1 1				· · ·	1	- 1	- †	- †	_	- †			Η-	t
5 -	U S		8.0			Similar fragmer		except black, 35% cinders,	clinkers and ash, trace gla	SS										
	Н								PID = 0.0/0	.0 ppm										
									PID = 0.0/0	.0 ppm					ı					
	P U S	G3	8.0 12.0		.0 CL/ OL/ OH	no struc		ck lean CLAY/ORGANIC Sept petroleum-like odor, wet				5	_	5	5	85	N	L	L	
	Н								PID = 0.0/0	.2 ppm										
10 -								-FILL-	PID = 3.5/0	() nnm										
				11.	.0 CL/	Similar	to above	except "sandy", moderate p			++	-	$\vdash$	- +	-+	- +	$\vdash$		<u> </u>	1
					OL/ OH			1		- •										
	P U S H	G4	12.0 16.0	- 1	On				PID = 0.5/0	.0 ppm										
						Note: N	o sheen	below approximately 12.5 ft												
15 –				14.	.5 CL	Olive	RGANIC	C SOIL (OL/OH), no structu	PID = 0.0/0						5	95	N	L	L	1
٦,						1	and peat i	fibers		-11										
}				16.	.0			-ORGANIC DEPO			$\vdash$				$\dashv$	$\dashv$			$\vdash$	l
		W		evel D		th (ft) to:		Sample ID	Well Diagram Riser Pipe				Sumi	mai	•					-
Da	ate	Time			Bottom	th (ft) to:	Water	O - Open End Rod T - Thin Wall Tube	Screen	Overl			` '		1	6.0	)			
			1	` '''/0	f Casing	of Hole	. 7 0.01	U - Undisturbed Sample S - Splitspoon Sample	Filter Sand	Rock Samp		ea	(π)	G.	4					
								G - Geoprobe	Grout Concrete Bentonite Seal	Bori		No	).	<u>J</u> .		HA	10	7		_
												_								
Field	Tests	:				Rapid S -			city: N - Nonplastic L - Low trength: N - None L - Low						Ve	ery H	<u>lig</u> h		_	

H	IAL LD	EY& RICI	z H					GEC	PROBE REPOR	т			Во	rin	g N	lo.		H	<b>41</b> (	<b>08</b>	
Proj Clie Con		THE	MC	COUR	T-BI	ROD	ERIC	CK LIMIT	AL PARCEL, BOSTON, M FED PARTNERSHIP DN, INC.	IA		Sh Sta	art	No I	. 1 Nov	eml	1 ber	30,			-
				Casir	ng	Sam	pler	Barrel	Drilling Equipmer	nt and Procedures		1	nish iller			emi Jaco		30,	20.	10	
Турє	e					C	j		Rig Make & Model: Geo	oprobe		Н8	kA F	Rер		M	. D	ods	on		
nsid	e Diar	neter (i	in.)			2.	.0		Bit Type: Drill Mud: None			1	eva itun	tion		Ro	eto	n C	ity	Ras	,
Ham	ımer V	Veight (	(lb)			-	-	-	Casing: None	4:- II		_	cati			s pl	anr	ned-	_		-
Ham		all (in.	)			-	-	-	Hoist/Hammer: Automa PID Make & Model:	ttic Hammer					Of	f gri	id				
£)	lows 1.	No. in.)	υ <b>‡</b>	<u> </u>	(ff)	Symbol		VIS	SUAL-MANUAL IDENTIFICATION	ON AND DESCRIPTION		$\vdash$	avel		Sand	t		F	ield တ	Te	5
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample	Stratum	Elev/Dept	USCS Syr			(Color, GROUP NAME, ma structure, odor, moisture, opt GEOLOGIC INTERPR	tional descriptions		% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	
0 -	P U S	G1 34	0.0 4.0	)		SM	stru	cture, no o	o brown silty SAND with grave odor, moist to dry, 20% brick a sh, trace wood and porcelain, c	and concrete fragments, 5% lay fragments		10		20	20						
	Н									PID = 0.0/0	**										
									-FILL-	PID = 0.0/0	.0 ррш										
5 -	P U S H	G2 24	4.0 8.0							PID = 0.0/0	.0 ppm										
					6.0	SM	(SN	1), mps 0.9	ay, gray brown CINDERS, ASI 9 in., layered, no odor, moist, ents, trace glass		SAND	5	35	25	20	5	10			<u> </u>	
							`	J	, 0	PID = 0.0/0	.0 ppm										
-	P U S H	G3 19	8.0 12.0			SM	Sim 10.:		ove except trace silty SAND (SI	M), wet below approximate $PID = 0.0/0$	•										
10 -	11									PID = 0.0/0	.0 ppm										
	P	G4 37	12.						-FILL-	PID = 0.0/0	() ppm										
	U S	31	16.0		3.0	OL/	Blac	ck ORGA	NIC SOIL (OL/OH) interbedde		**	$\vdash$				10	90	S	N	N	-
	Н			1.	4.0	ОН			RS, 20% wood fragments -HARBOR MUD												
				"		OL/ OH			NIC SOIL (OL/OH), mps 1 mm	· /	wet,	1				5	95	N	L	L	
15 -							trac	e snell frag	gments and peat fibers	PID = 0.0/0	.0 ppm										
}				10	6.0				-ORGANIC DEPO												+
									BOTTON OF EAFLURA	1101 10.0 1 1											
		١٨/-	ator I	Level [	Data				Sample ID	Well Diagram				Sum	ma	n,				<u>_</u>	]
<u>۔ ۔ ۔</u>	ate	Time		apsed			th (ft)		O - Open End Rod	Riser Pipe	Overl	burc					16.0	)		_	
	J.(0		Tim	ne (hr.)	Bott of Ca		Botto of Ho		T - Thin Wall Tube U - Undisturbed Sample	Screen Filter Sand	Rock	Со		` '		-					
									S - Splitspoon Sample G - Geoprobe	Grout Concrete Bentonite Seal	Samp <b>Bori</b>		No	<b>)</b> .	G		HA	10	8		_
Field	l Tests	:	1					S - Slow M - Mediu		city: N - Nonplastic L - Low trength: N - None L - Low						/ _ \/4	en/ F	Hiah			-
†Not	e: Ma			cle size	mp:	s) is (	detern	nined by d	direct observation within the l	imitations of sampler size				Ĭ			⊸ıy Γ	ngH		_	

I-A	IAL LD	EY& RICI	z H				GEO	PROBE REPOR	т		В	or	ing	j N	Ο.		HA	<b>\1</b> (	09	
Clie	nt	THE	MC	COURT	-BROD	DERIC	K LIMIT	ED PARTNERSHIP	A		File She Star	et l	No.	1 Nove	emb	1 oer	30, 30,			-
				Casing	San	npler	Barrel	Drilling Equipmen	nt and Procedures		Fini Drill				emo Jaco		30,	20.	10	
Тур	е	Casing   Sampler		Rig Make & Model: Geo	probe		H&A	A R	lep.		M.	. Do	odso	on_						
Insid	P   G2   4.0   S   H	Bit Type: Drill Mud: None			Ele				Rο	stoi	n Ci	itv	Ra	26						
Ham	ımer V	Veight (	(lb)		-		-	Casing: None Hoist/Hammer: Automa	tia Hammar		Loc			As	s pla	ann	ed-	_		_
Han		all (in.	)		-		-	PID Make & Model:	ne Hammer					of	gri	ıd				
Œ(	Slows J.	No. in.)	<u>ə</u> €	E 0	th (ft)		VISU	JAL-MANUAL IDENTIFICATIO	N AND DESCRIPTION		Grav	$\rightarrow$		Sand =	$\Box$			ield ගූ		Τ
Depth (ft)	P   G1   0.0   Sh   H	Elew/Dept USCS Sy			(Color, GROUP NAME, ma structure, odor, moisture, opt GEOLOGIC INTERPR	ional descriptions		% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity				
0 -	P	G1		)	SM						10	10	25	_	_	_				İ
	S	32	4.0		CL				Y pieces											
	Н								PID = 0.0/0	.0 ppm										
									PID = 2.9/0	.0 ppm										
								-FILL-												
									PID = 0.0/0	.0 ppm										
5 -	S		0.0							**										
	11			6.	$0 \mid_{\overline{CL}}$	Not	e: Cohesive	e/ORGANIC FILL 6.0 to 7.0			++	+	-+	-+	-+	-+	-+	-+	۲-	t
				7.	0	+-			PID = 0.0/0	.0 ppm	++	- 🕂	-+	-+	-+	- +			<u> </u>	$\frac{1}{1}$
	D	G2	9 (					-FILL-												
	U			- 1	-				PID = 0.0/0											
40					GP			mately 50% ash and cinders fr	om 9.0 to 11.0 ft, 5% coal	l-like										
10 -				10.	5  -GP		e: Wet belo	ow approximately 10.0 ft.	PID = 0.0/0	.2 ppm <sub>i</sub>	++	- ‡	-	-	-	-	$\vdash$	_	<u> </u>	ļ
				11.			narily GRA	VEL from 10.5 to 11.0 ft			$\dagger \dagger$	-†	-†	- +	-†	- †	- +	-+		t
	P		12.	0				-FILL-												
		29	16.0	)					PID = 0.0/0	.0 ppm										
15 -	Н					Not	re: 100% cir	nders and ash from 14.0 to 15	.5 ft, no odor. PID = 0.0/0	.0 ppm										
	P	G5	16	0																
	U			1 16	OL/	Olii	ODCAN	IC SOIL (OL /OH), no etructu	PID = 0.0/0		$\Box$	1	$\forall$		$\exists$					t
								* **	re, 1125 odor, wet, trace p	cai										
									PID = 0.0/0	.0 ppm										
								-ORGANIC DEPO	OSITS-											
20 -				20.	0			BOTTOM OF EXPLORA	TION 20.0 FT				1							t
l		W	ater l	evel Da	ata			Sample ID	Well Diagram			S	umi	 mai	$\frac{\perp}{\sim}$	_		_	<u>_</u>	<u>_</u>
D	ate		Ela	apsed_	Dep			O - Open End Rod	Riser Pipe Screen	Overl	burde				•	20.0	)			
			Tim					T - Thin Wall Tube U - Undisturbed Sample	Filter Sand	Rock		ed	(ft)							
								S - Splitspoon Sample G - Geoprobe	Cuttings Grout	Samp				G:			110	0		
								·	Concrete Bentonite Seal	Bori						п <i>А</i>	710	<i>y</i> —		
				Toug	<u>hness: L</u>	Low	M - Mediun	n H - High Dry St	city: N - Nonplastic L - Lov trength: N - None L - Low	M - Med					- Ve	ery F	ligh_			_
'Not	te: Ma							rect observation within the li sual-manual methods of t			v & L	\ldı	rich			—		—		

H A	IAL LD	EY& RICI	z H				GEO	PROBE REPORT	Г		l	Во	rin	g N	lo.		H	<b>41</b>	10	
Proj Clie Con	nt	THE	MCC	COURT	-BROD	ERIC	K LIMITI	ED PARTNERSHIP	A		Sh Sta	art	No.	. 1 Nov	of eml	ber	30,			
	THE MCCOURT-BRODERICK LIMITED PARTNERSHIP  GEOLOGIC-EARTH EXPLORATION, INC.  Casing Sampler Barrel Drilling Equipment and Proce be led Diameter (in.) G. Sampler Bit Type:  Drill Mud: None Bit Type: Drill Mud: None Hoist/Hammer: Automatic Hammer Fall (in.) Casing: None Hoist/Hammer: Automatic Hammer Fall (in.) PID Make & Model: PID Mak	t and Procedures			nish iller			eml Jaco	ber obs	<i>5</i> 0,	20	10								
уре	FORMER ENERGY INTERNATIONAL PARCEL, BOSTON, MA THE MCCOURT-BRODERICK LIMITED PARTNERSHIP  GEOLOGIC-EARTH EXPLORATION, INC.  Casing Sampler Barrel  GEOLOGIC-EARTH EXPLORATION, INC.  GEOLOGIC-EARTH EXPLORATION GEOPTOBE Bit Type: Drill Mudc. None Casing: None Hoist-Hammer PID Make & Model:  GEOLOGIC INTERPRETATION)  (Color, GROUP NAME: max particle size), structure, good, molistic, optional descriptions GEOLOGIC INTERPRETATION)  (Color, GROUP NAME: max particle size), structure, good, molistic oftry, 20% brick and concrete fragments, specks, trace coal-like material  PID = 0.00.0 pp  -FILL- PID = 0.00.0 pp  -FILL- PID = 0.00.0 pp  The pid = 0.00.0 pp  -FILL- PID = 0.00.0 pp  -FILL- PID = 0.00.0 pp  -FILL- PID = 0.00.0 pp  -FILL- PID = 0.00.0 pp  -FILL- PID = 0.00.0 pp  Note: Slight petroleum-like odor from 15.0 to 16.0 ft.  OUT OH OH ONCE Slight petroleum-like odor from 15.0 to 16.0 ft.  OUT OH ONCE Slight petroleum-like odor from 15.0 to 16.0 ft.  OUT OH OH ONCE Slight petroleum-like odor from 15.0 to 16.0 ft.  OUT OH OH ONCE Slight petroleum-like odor from 15.0 to 16.0 ft.  PID = 0.00.0 pp  -FILL-		Н8	kA F	₹ер			. D	ods	on										
nsid	e Dian	tet FORMER ENERGY INTERNATIONAL PARCEL, BOSTON, MA THE MCCOURT-BRODERICK LIMITED PARTNERSHIP actor GEOLOGIC-EARTH EXPLORATION, INC.    Casing   Sampler   Barrel   Drilling Equipment and Procedures			eva itun	tion n		Bo	osto	n C	itv	Bas	se							
		_			-		-	0	ic Hammer		_	cati			s pl	lann				
Ham			)			-	-								f gr	id				_
(£)	3lows n.	S E	∌ ẽ	Eg	th (ft)		VISU	IAL-MANUAL IDENTIFICATION	N AND DESCRIPTION			vel		Sand	t				I Te	
Depth (ft)	Sampler I per 6	Sample & Rec.	Samp	Stratu	Elev/Dep USCS S)			structure, odor, moisture, option	onal descriptions		% Coarse	% Fine	% Coarse	wnipaW %	% Fine	% Fines	Dilatancy	Toughness	Plasticity	6
0 -	P U	-				mois	st to dry, 20				5	10	15	20	35	15				Ī
						mate	erial	DILI	PID = 0.0/0	.0 ppm										
				2.	CL/	<del> </del>				.0 ppm <sub>/</sub>		10	15	10	20	45	-		+-	+
					EH					ıkers,										
						colo	r variation	-FILL-												
5 -	S	21	8.0						PID = 0.0/0	.0 ppm										
	н			6.	$0 \mid \overline{SC} /$	Darl	k olive gray	clayey/silty SAND with grave	el (SC/SM), mps 1.4 in.,		20	10	10	10	10	40		_L-	L.	
					SM												S	N	N	
									F1D = 0.070	.о ррш										
0-								-FILL-	PID = 0.0/0	.0 ppm										
_									PID = 0.0/0	.0 ppm										
15 –						Note	e: Slight pe	troleum-like odor from 15.0 to		.0 ppm										
				16.	OL/										5	95	N	M	L	Ī
									PID = 0.0/0	.0 ppm										
								-ORGANIC DEPO	SITS-											
20 -				20.	0			BOTTOM OF EXPLORAT	TION 20.0 FT											+
L		10/	ator!	aval Da	nta .			0	Well Diagram				Sum	<u></u>	n.	_			<u>_</u>	<u>_</u>
ص ص	ate			psed	Dep				Riser Pipe	Overl	ourc					20.0	)			_
	uic	iiiie	Tim						Filter Sand	Rock			` '		_	٠.٠				
								S - Splitspoon Sample	Grout	Samp		NI a		G		HA	11	0		
Field	l Tests	:							FTTT	Bori w M-M				ligh						_
ICIU				Tougl	<u>hness:</u> L	<u> - Low</u>	M - Mediun		rength: N - None L - Low	M - Med					/ - Ve	ery F	ligh			_

A		RICI	I				GEO	PROBE REPOR	Т		'	DU	m	g N	10.	ΗA	711	Ι (	(O)	٧
Clie	nt	THE	MC	COU	RT-BR	ODERIG	CK LIMIT	ED PARTNERSHIP	A		Sh Sta	art	No ]	. 1 Nov	eml	1 oer	29,			-
	THE MCCOURT GEOLOGIC-  Casin pe  ide Diameter (in.)  mmer Weight (lb)  mmer Fall (in.)  P G1 0.0 a (ii)  S B B B B B B B B B B B B B B B B B B	ing S	ampler	Barrel	Drilling Equipmen	nt and Procedures			nish iller		Nov D			29,	20.	10				
Гуре	е				-	G			probe		Н8	&A F	Rер				ods	on		
Ham	nmer W	/eight (	(lb)	 	- - -	2.0	 - -	Drill Mud: None Casing: None	tic Hammer		Da	eva atun ocati		A		ann	n C ned-			
£	lows 1.	No. ().	e €	ram	E 0	h (ft) nbol	v	ISUAL-MANUAL IDENTIFICAT	TION AND DESCRIPTION			avel		Sand	t			ield ගූ		
Depth (ft)	P   G2   4.0   1.0   2.0   5.5 ft.	structure, odor, moisture, o	optional descriptions		% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity							
0 -	P	FORMER ENERGY INTERNATIONAL PARCEL, BOSTON, MA THE MCCOURT-BRODERICK LIMITED PARTNERSHIP or GEOLOGIC-EARTH EXPLORATION, INC.    Casing   Sampler   Barrel   Drilling Equipment and Procedures	0	5	15	20	20	20	20											
	P   G2   4.0	ekets of cohesive soils, yellow	M), mps 1.3 in., disturbed sandy SILT, and approxim	l with		13	20	20	20	20										
									PID = 0.0/0	.0 ppm										
				- d				proximately 20% brick fragme		terial										
5 -	S	20	8.0		8.	8														
	Н				5.	5 SM	20% silty	SAND (SM), mps 1.0 in., no												
									PID = 0.0/0	.0 ppm										
	U							-FILL		.0 ppm										
10 –					9		/CL), mp	os 5 mm, no structure, petroleu				_	_		10	90	N	L	L	
									PID = 0.7/0	.0 ppm										
	U S							-COHESIVE		.0 ppm										
15 -	11								PID = 0.4/0	.0 ppm										
ļ	P	G5	16.0	<b>-</b> ∰	-1 16	7 OL-	Olive to	olive gray ORGANIC SOIL (C	DL-OH), mps 1 mm. lamin	nated.					5	95	N	L	L	
	U S					_		r, wet, trace peat fibers and sh	ell specs $PID = 0.0/0$											
								-ORGANIC DE		.0 ppm										
20 -				<b>⊣</b> :: =	1: ] -5. 20.	7		BOTTOM OF EXPLO	RATION 20.0 FT											
							Note: Ins	stalled 2-in. observation well in	n completed borehole to 14	4.0 ft.										
		W	ater L	_evel		<u> </u>		Sample ID					Sum	ma	ry				=	
Da	ate	Time		•	Botto	n Botto	m Water		Screen	Over			٠,		2	20.0	)			
1/29	9/2010	0700		•	701 Casi		ole		Cuttings	Samp			(11)	G	5_					
								G - Geoprobe	Concrete Bentonite Seal	Bori					ΗA	11	1 (	OV	V)	
Field	l Tests	:							city: N - Nonplastic L - Loter trength: N - None L - Low						, \/	on ( L	liah			

CHARTH EXECUTION CHART IN CHAR	Rig Make & Model: Geoprobe Bit Type:	Sh St Fi Dr Ha El Da Lo	tart nish riller &A leva atur ocat	t No	Nov Nov D.	Jaco M Bo s pl	ber ber obs Dosto	29, 29, odso n C	on ity	10 Base			
G 2.0   Change	Rig Make & Model: Geoprobe Bit Type: Drill Mud: None - Casing: None Hoist/Hammer: Automatic Hammer PID Make & Model:  VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION  (Color, GROUP NAME, max. particle size <sup>†</sup> , structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)  -ASPHALT- PID = 0.0/0.0 pp	Di Ha	riller &A leva atur ocat	Repation	D.  A o	Jaco M Bo s pl	obs . D osto	odson C	on ity l	Base			
2.0 Change Change Change O.4 SP- SM SM SM SM SM SM SM SM SM SM SM SM SM	Bit Type: Drill Mud: None - Casing: None - Hoist/Hammer: Automatic Hammer PID Make & Model:  VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION  (Color, GROUP NAME, max. particle size <sup>†</sup> , structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)  -ASPHALT- PID = 0.0/0.0 pp	El Da Lo	leva atur ocat	Repation	A o San	Boas pl	. D osto lann	n C	ity ]				
Change Change O.4 SP- SM SM SM SM SM SM	Drill Mud: None Casing: None Hoist/Hammer: Automatic Hammer PID Make & Model:  VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION  (Color, GROUP NAME, max. particle size <sup>†</sup> , structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)  -ASPHALT- PID = 0.0/0.0 pp	Coarse Coarse	atur	n tion	A 0 San	s pl	lanı	ned-	cen				
0.4 SP- 0.8 SM /	Hoist/Hammer: Automatic Hammer PID Make & Model:  VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION  (Color, GROUP NAME, max. particle size <sup>†</sup> , structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)  -ASPHALT- PID = 0.0/0.0 pp	Coarse	avel	tion	San	s pl	lanı	ned-	cen				
0.4 SP- 0.8 SM /	PID Make & Model:  VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION  (Color, GROUP NAME, max. particle size <sup>†</sup> , structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)  -ASPHALT- PID = 0.0/0.0 pp	Coarse	$\overline{}$	+	San		id						
0.4 SP- 0.8 SM /	(Color, GROUP NAME, max. particle size <sup>†</sup> , structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)  -ASPHALT- PID = 0.0/0.0 pp  Yellow poorly graded SAND with silt (SP-SM), dry	Coarse	$\overline{}$	+	_	d							
0.4 SP- 0.8 SM /	structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)  -ASPHALT- PID = 0.0/0.0 pp  Yellow poorly graded SAND with silt (SP-SM), dry	% Coarse	<u>`</u> ا	1 00				ď		Test			
0.4 SP- 0.8 SM /	$\$ PID = 0.0/0.0 pp $\$ Yellow poorly graded SAND with silt (SP-SM), dry	=	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity			
$0.8 \left  \frac{\text{SM}}{\text{SM}} \right $	Yellow poorly graded SAND with silt (SP-SM), dry	<b>├</b>	Ħ						$\exists$	$\equiv$			
	odor, moist to dry, 15% cinders, and clinkers, trace brick specks  -FILL-	<u>n</u> /) . / 5	5	15	35	<b>├</b> ─ -⁄	20						
	PID = 0.0/0.0  pp	n											
	PID = 0.0/0.0  pp	n											
	Black to dark gray CINDERS, ASH and CLINKERS, approximately 45 % silty SAND with gravel (SM), mps 1.3 in., no structure, no odor, moist to wet near 8.0 ft, trace brick specks, cohesive pockets, 10% coal-like specks  PID = 0.0/0.0 pp		10	15	20	25	25		_	_			
	-FILL- PID = $0.0/0.0$ pp	n											
	Dark olive gray to black sand lean CLAY (CL), mps 1 mm, no structure, slight petroleum-like odor, wet, 5 to 10% shell specks and fragments, 5%	n	<u> </u>		<u>.</u>	25	75			_			
	cinders and ash $PID = 0.0/0.0 \ pp$	n											
	-COHESIVE FILL- $\label{eq:PID} \text{PID} = 0.0 / 0.0 \text{ pp}$	n											
16.5 SP	PID = 0.0/0.0  pp	<b>-</b> ∕ I	_		25	75							
175	Olive brown poorly graded SAND (SP), silty at top, becomes more fine with depth	$\vdash$	+			5	95	N	L	L			
	Olive brown ORGANIC SOIL (OL/OH), mps 0.5 in., (shell), no structure, H2S odor, wet, trace peat fibers and shell specks and fragments												
20.0		n —	+						-				
	BOTTOM OF EXPLORATION 20.0 FT												
Data	Sample ID Well Diagram		_	Sun	nma	ry			=	=			
Bottom Bo	T - Thin Wall Tube U - Undisturbed Sample S - Splitspoon Sample G - Geoprobe  T - Thin Wall Tube U - Undisturbed Sample G - Geoprobe  Rock Sam Grout Concrete  Bori					erburden (ft) 20.0							
1						TT 4 110							
	apid S - Slow N - None Plasticity: N - Nonplastic L - Low M					,		E-1					
2	Data Depth Dot Bottom For Casing Depth Representations Depth Representation Depth Representation Depth Representation Depth Representation Depth Represent	Olive brown ORGANIC SOIL (OL/OH), mps 0.5 in., (shell), no structure, H2S odor, wet, trace peat fibers and shell specks and fragments -ORGANIC DEPOSITS- PID = 0.0/0.0 ppn BOTTOM OF EXPLORATION 20.0 FT  Data Sample ID Bottom Depth (ft) to: O - Open End Rod T - Thin Wall Tube U - Undisturbed Sample S - Splitspoon Sample G - Geoprobe  Data Sample ID Riser Pipe Screen Cuttings Grout Grout Concrete Bentonite Seal  Batancy: R - Rapid S - Slow N - None  Plasticity: N - Nonplastic L - Low M -	Data  Sample ID  O- Open End Rod T- Thin Wall Tube Of Casing of Hole Of Casing of Hole Of Casing Of Hole  Sample S- Splitspoon Sample G- Geoprobe  Data  Sample S- Solow N - None Bottom Bottom S- Splitspoon Sample G- Geoprobe  Data  Sample ID  Well Diagram O- Overbun Riser Pipe Screen Screen Screen Cuttings Grout Sampless Grout Samples Boring  Plasticity: N - Nonplastic L - Low M - Medium Dry Strength: N - None L - Low M - Medium Dry Strength: N - None L - Low M - Medium Dry Strength: N - None L - Low M - Medium Dry Strength: N - None L - Low M - Medium Dry Strength: N - None L - Low M - Medium Dry Strength: N - None L - Low M - Medium Dry Strength: N - None L - Low M - Medium Dry Strength: N - None L - Low M - Medium Dry Strength: N - None L - Low M - Medium Dry Strength: N - None L - Low M - Medium Dry Strength: N - None L - Low M - Medium Dry Strength: N - None L - Low M - Medium Dry Strength: N - None L - Low M - Medium Dry Strength: N - None L - Low M - Medium Dry Strength: N - None L - Low M - Medium Dry Strength: N - None L - Low M - Medium	Olive brown ORGANIC SOIL (OL/OH), mps 0.5 in., (shell), no structure, H2S odor, wet, trace peat fibers and shell specks and fragments -ORGANIC DEPOSITS-  PID = 0.0/0.0 ppm  BOTTOM OF EXPLORATION 20.0 FT  Depth (ft) to: Depth (ft) to: Do Open End Rod T - Thin Wall Tube Of Casing Of Hole U - Undisturbed Sample S - Splitspoon Sample G - Geoprobe  Data  Sample ID  Well Diagram Riser Pipe Screen Screen Cuttings Grout Concrete Samples Boring Notes International Seal  Boring Notes International Seal  Boring Notes International Seal  Boring Notes International Seal  Boring Notes International Seal  Boring Notes International Seal  Depth (ft) to: Depth (ft) to: O - Open End Rod T - Thin Wall Tube G - Geoprobe  Boring Notes International Seal  Boring Notes In	Olive brown ORGANIC SOIL (OL/OH), mps 0.5 in., (shell), no structure, H2S odor, wet, trace peat fibers and shell specks and fragments -ORGANIC DEPOSITS- PID = 0.0/0.0 ppm  BOTTOM OF EXPLORATION 20.0 FT  Depth (ft) to: Depth (ft) to	Olive brown ORGANIC SOIL (OL/OH), mps 0.5 in., (shell), no structure, H2S odor, wet, trace peat fibers and shell specks and fragments -ORGANIC DEPOSITS-  PID = 0.0/0.0 ppm  BOTTOM OF EXPLORATION 20.0 FT  Depth (ft) to: Depth (ft) t	OL/ OH OH OH OH OH OH OH OH OH OH OH OH OH	OIL OH OH OH OH OH OH OH OH OH OH OH OH OH	Olive brown ORGANIC SOIL (OL/OH), mps 0.5 in., (shell), no structure, H2S odor, wet, trace peat fibers and shell specks and fragments -ORGANIC DEPOSITS-  PID = 0.0/0.0 ppm  BOTTOM OF EXPLORATION 20.0 FT  Depth (ft) to: Depth (ft) t	Olive brown ORGANIC SOIL (OL/OH), mps 0.5 in., (shell), no structure, H2S odor, wet, trace peat fibers and shell specks and fragments -ORGANIC DEPOSITS-  PID = 0.0/0.0 ppm  BOTTOM OF EXPLORATION 20.0 FT  Depth (ft) to: Depth (ft) t			

HALEY& ALDRICH			GEOPROBE REPORT				Boring No.						HA113				
Proj Clie Con		THE	MCC	COURT-I	BROD		AL PARCEL, BOSTON, MA ITED PARTNERSHIP ON, INC.	S	tart	et N	o. No	0631 1 of oven	1 iber	29,			_
				Casing	Sam	pler Barre	Drilling Equipment and Procedures	- 1	inis Irille			. Jac			20	10	
Туре	9				C	<del>}</del>	Rig Make & Model: Geoprobe	ŀ	l&A	Re	p.	N	1. D	ods	on		
Insid	e Diar	neter (i	in.)		2.	0	Bit Type: Drill Mud: None	- 1	Eleva Datu		n	B	osto	nn C	itv	Ra	c
Ham	mer V	Veight	(lb)				Casing: None Hoist/Hammer: Automatic Hammer	_	oca			As p	olan				_
Ham		all (in.	)				PID Make & Model:					of g	rid				
(£	lows 1.	No. in.)	⊕ E	n e h (ft)	Symbol	v	SUAL-MANUAL IDENTIFICATION AND DESCRIPTION		irave	_	Sa	-	$\top$		က္က	d Te	5
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Syr		(Color, GROUP NAME, max. particle size <sup>†</sup> , structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	00000	% Coal se	Coarse	Madiim %	% Fine	% Fines	Dilatancy	Toughness	Plasticity	
0 -	P	G1	0.0				-ASPHALT-	Ť	Ė		ŧ				Ė	Ē	
	U S	37	4.0	0.4	SM	Brown gray	PID = $0.1/0.0$ ppn brown silty SAND with gravel (SM), mps 1.0 in., no structure,	n/	13	5   20	0 2	0 25	20				
	Н			1.6	SM/ CL	no odor, mo Dark olive g CLAY (20%		<u>ئے</u> ار	5 1:	5 20	0 2:	5 20 0 30	15			-	1
5 -	P U S H	G2 35	4.0 8.0				-FILL- $PID = 0.5/0.0 \text{ ppr}$ $PID = 0.2/0.0 \text{ ppr}$										
							PID = 0.0/0.0  ppi	,									
				7.0	SM		ERS, ASH, and CLINKERS approximately 30% silty SAND		5 20	1 2:	5 3	0 15	5	╁-	-	+-	-
	P U	G3 18	8.0 12.0	1		(SM), mps 1	.0 in., no odor, moist $\label{eq:pident} {\rm PID} = 0.0/0.0~{\rm ppi}$	,									
10 -	S H	10	12.0				-FILL-										
				11.0	ŌL/ŌĪ	Note: Based	$\label{eq:pident} \mbox{PID} = 0.0/0.0 \mbox{ ppr}$ on drill action, poor recovery.	n		+		5 5	85	L <sub>N</sub>	L	L.	_
	P	G4	12.0		/CL	-	o gray ORGANIC SOIL/lean CLAY (OL/OH/CL), mps 5 mm, slight petroleum-like odor, wet	_									
	U S H	48	16.0				PID = 0.0/0.0  ppr	n									
15 –	**						-COHESIVE FILL- $\label{eq:PID} \mbox{PID} = 0.2 / 0.0 \mbox{ pp}$	n									
				15.5	SW	, ,	raded SAND (SW), mps 0.3 in., no structure, slight petroleum-			1:	5 5	0 35	-			$\vdash$	_
	P U S H	G5 48	16.0 20.0	1	OL- OH		-ESTUARINE DEPOSITS- PID = $0.0/0.0$ ppn DRGANIC SOIL (OL-OH), mps 3 mm, no structure, slight H2S % peat fibers	n				5	95	N	L	L	
							$\label{eq:pid} \mbox{PID} = 0.0 / 0.0 \mbox{ ppi}$ -ORGANIC DEPOSITS-	n									
20				20.0			BOTTOM OF EXPLORATION 20.0 FT	$\top$		1		$\dagger$	T			T	
L		W	ater L	evel Data	<u></u> а		Sample ID Well Diagram			Sui	mm	iarv	_	<u></u>		<u></u>	=
Da	ate				Depth (ft) to: O - Open End Rod Strom Bottom Bottom Water T - Thin Wall Tube  Riser Pipe Screen Screen T - Thin Wall Tube				erburden (ft) 20.0 ck Cored (ft)								
						S - Splitspoon Sample G - Geoprobe G - Geoprobe			ring No. HA113							_	
Fiold	l Tests			Dilatan	cv·R-	Rapid S - Slow	Bentonite Seal				Hial				_		_
			nartio	Toughn	iess: L	- Low M - Med							/ery	<u>High</u>			-

		EY& RICI					GEO	PROBE REPORT	Ī			Во	rin	g N	No.		HA	<b>\-2</b>	01	
Clie		THE	MCC	OURT	CO., Il	NC.	SOUTH G, INC.	BOSTON, MA			Sh Sta	art	No	. 1 N	of Iarc	1 h 2	, 20			
			(	Casing	Samp	oler	Barrel	Drilling Equipment	and Procedures			nish iller			Iarc Dov			112		
Han	de Dia nmer V	meter ( Weight	(lb)	- - -	G 2 -		- - -	Rig Make & Model: Geor Bit Type: Geoprobe spoo Drill Mud: None Casing: Hoist/Hammer: Autom PID Make & Model: Min	on atic Hammer		Ele	RA Feva eva etun ecati	Rep tion า	).		Pa	lleil	co		
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	USCS Symbol	Stratum Change Elev/Depth (ft)		(0	MANUAL IDENTIFICATION AN Color, GROUP NAME, max. pa acture, odor, moisture, optional GEOLOGIC INTERPRETA	ND DESCRIPTION  rticle size*, descriptions	PID Readings (ppm)	Goarse 32	level %	% Coarse	% Medium		% Fines		S	Plasticity a	Strength s
<del>- 0 -</del> -	P U S H	G1 40	0.0 5.0	GP	0.4	70-80	 0% ASH, gravel, 10	raded GRAVEL (GP)  -BALLAST FILL-  COAL, BRICK in fragments, power sand, black, mps 2 in., no seem seem seem seem seem seem seem see		ND	90				5					
_								-ASH FILL-												
- 5 - -	P U S H	G2 32	5.0 8.0		5.0			OAL, BRICK, CONCRETE gree, no odor, moist to wet in poc		ND		_								
_					0.0			-ASH FILL-												
_					8.0			BOTTOM OF EXPLORATIO	N 8.0 FT											
		Wa		vel Da		(£1)	<b>.</b>	Sample ID	Well Diagram					ıma	ry					
D	ate	Time	Elap Time	(hr\B		Bottom	Water	O - Open End Rod T - Thin Wall Tube	Riser Pipe Screen Filter Sand	Over Rock			•	•		8.0				
				101	Casing	of Hole		U - Undisturbed Sample S - Splitspoon Sample	Cuttings	Sam			(11	) G	2	_				
								G - Geoprobe	Grout Concrete Bentonite Seal	Bori	ng	No	).		]	HA	-2(	)1		
Field	d Tests	::	1	Dilatan	ncy: R - I	Rapid - Low	S - Slow M - Mediu	N - None	ity: N - Nonplastic L - Lovength: N - None L - Low	W M - N M - M≏	/ledi	um n H	H - - Hi	High	ר V - '	Verv	/ Hia	h		
*No	te: Ma			size is	determi	ned by	direct ob	servation within the limitation sual-manual methods of the	s of sampler size.								9			

Sep 24, 12

H&A-GEOPROBE-07-1 W/ PID HA-LIB07-1-BOS.GLB HA-TB+CORE+WELL-07-1.GDT G:\06318\520\FIELD\06318-520\_GEO.GPJ

		EY& RICI				(	GEOI	PROBE REPORT	Ī			Boı	rin	g N	lo.	]	HA	2(	)2	
Clie	ject ent ntracto	THE	MCC	OURT	CO., I			BOSTON, MA			Sh Sta	art	No	. 1 M		1 h 2,	, 20			
			(	Casing	Sam	pler [	Barrel	Drilling Equipment	and Procedures			nish iller			arcı Dow		, 20 19	12		
Тур	e			-	G	r	-	Rig Make & Model: Georg	probe		1		₹ер				lleik	0		
Insid	de Dia	meter	(in.)	_	2		-	Bit Type: Geoprobe spoo Drill Mud: None	on			eva atum	tion							
Han	nmer V	Veight	(lb)	-	-		-	Casing:					ion	Se	ee P	lan				
Han		all (in	.)	-	-		-	Hoist/Hammer: Autom PID Make & Model: Min	atic Hammer iRAE 2000											
Œ	lows I.	No.	⊕ <del>(</del> E)	loqu	£	,	VISUAL-I	MANUAL IDENTIFICATION AN		ngs	_	avel		Sanc	i			eld o	Test	
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	USCS Symbol	Stratum Change Elev/Depth (ft)			color, GROUP NAME, max. pa icture, odor, moisture, optional GEOLOGIC INTERPRETA	descriptions	PID Readings (ppm)	% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	Strength
- 0 -	P	G1 40	0.0	GP	0.3			aded GRAVEL (GP), mps 2 in	., no structure, no		90	5			5					
	U S	40	5.0			\		BALLAST FILL	/											
-	Н							OAL in fragments, particles an in., no odor, moist to wet in p		ND										
- - - 5 -	P U S	G2 20	5.0 8.0		5.0	particle	es and sp	-ASH FILL- NDERS, CONCRETE, BRICDecks, change to 100% FLY Allolack, mps 0.8 in., no odor, me	SH at 6.7 ft, dark gray	ND										
_	Н				8.0			-ASH FILL-												
_					8.0		]	BOTTOM OF EXPLORATIO	N 8.0 FT											
		Wa		evel Da				Sample ID	Well Diagram			S	Sum	mai	ry					_
D	ate	Time	Elap Time	(hr \ B	ottom	h (ft) to Bottom of Hole	: Water	O - Open End Rod T - Thin Wall Tube U - Undisturbed Sample S - Splitspoon Sample	Riser Pipe Screen Filter Sand Cuttings	Over Rock Sam	Co	red	` '			8.0 -				
								G - Geoprobe	Grout  Concrete	Bori			).			ΉA	-20	2		_
Field	d Tests	: :					S - Slow I	N - None Plastic	Bentonite Seal  ity: N - Nonplastic L - Lo	w_M-N	/ledi	um	H <sub>-</sub> .	High		/a -	1.05.7			_
*No	te: Ma			size is	determ	ined by c	direct ob:	servation within the limitation								ery	High	1		_
		No	ote: S	oil ider	ntificati	on base	ed on vis	sual-manual methods of th	e USCS as practiced b	ov Hale	y &	Ald	rich	ı, In	C.					

Project Client Contract  Type Inside Dia Rammer Rammer Rammer Public Pub	THE tor NI ameter Weight	Sample Cin.) Oepth (#) Depth (#)	COURT AMPSH Casing - - -	CO., II	NC. DRING, INC. pler Barrel VISUAL-	Drilling Equipmen Rig Make & Model: Geo Bit Type: Geoprobe spoo Drill Mud: None Casing: Hoist/Hammer: Autom PID Make & Model: Mir	probe on natic Hammer		Star Fini Drill H&/ Ele' Dat	et rt sh er A R vati	No.	Mai	f 1 rch : rch : own O. P	2, 2 2, 2 ing	012	
P U S	Weight Sample No. (in.) Sample No. (in.) Sample No. (in.) Gample No. (in.)	Sample O.0	USCS Symbol	G 2 -	- - - - VISUAL-	Rig Make & Model: Geop Bit Type: Geoprobe spood Drill Mud: None Casing: Hoist/Hammer: Autom PID Make & Model: Min	probe on natic Hammer		Drill H&/ Ele Dat	er A R vati um	lep.	. Do	own D. P	ing alle		
P U S	Weight Sample No. (in.) Sample No. (in.) Sample No. (in.) Gample No. (in.)	Sample (dl) (dl) 100 (ol) (dl) (dl) (dl) (dl) (dl) (dl) (dl) (d		2 -	- - - VISUAL-	Bit Type: Geoprobe spood Drill Mud: None Casing: Hoist/Hammer: Autom PID Make & Model: Mir	on natic Hammer		Ele <sup>1</sup>	vati um	ion				iko_	
Sampler Blows A Campler Blows	Weight Sample No. (in.) Sample No. (in.) Sample No. (in.) Gample No. (in.)	Sample (dl) (dl) 100 (ol) (dl) (dl) (dl) (dl) (dl) (dl) (dl) (d		-	- - VISUAL-	Casing: Hoist/Hammer: Autom PID Make & Model: Mir						See	Pla	n		
S Π d Sampler Blows per 6 in.	Bample No. & Rec. (in.)	Sample Depth (ft)		Stratum Change ev/Depth (ft)			niRAE 2000	,								
P U S	G1	Samp 0.0 Samp Depth		Stratum Change ev/Depth		III) III OA IE IBEIT III IOAT II OITA	ND DESCRIPTION	gs	Grav	el	S	and		$\Box$		l Test
P U S	G1	0.0		Ш		Color, GROUP NAME, max. pa ucture, odor, moisture, optional GEOLOGIC INTERPRETA	article size*, I descriptions	PID Readings (ppm)	% Coarse	% Fine	% Coarse	% Medium % Fine	% Fines	Dilatancy	Toughness	Plasticity
S	40	5.0		0.3	Gray poorly gr	aded GRAVEL (GP), mps 2 in	n., no structure, no		90	5		5	_	Ī.		Ħ
n					\	BALLAST FILL-	/									
					fragments, part	X, CONCRETE, WOOD, ASI- ticles and specks, 10% sand, 1- banded, mps 2 in., no structur	0% gravel, dark	ND								
						-FILL-										
5 - P U S H	G2 24	5.0		5.0		INDERS, WOOD in fragments ack, mps 2 in., no structure, n		ND				_				
						-ASH FILL-										
				8.0												
						BOTTOM OF EXPLORATIO	N 0.0 F1									
	141	Water L	ovol Da	to		0-m 4- 15	Woll Diggram					20===		<u></u>	<u></u>	
Date	Time	ne Ela	psed	Depti	n (ft) to: Bottom of Hole Water	Sample ID  O - Open End Rod T - Thin Wall Tube U - Undisturbed Sample S - Splitspoon Sample	Well Diagram  Riser Pipe Screen Filter Sand Cuttings Grout	Over Rock Samp	Cor	en	(ft)	G2	8.0			
ield Test					Rapid S - Slow - Low M - Mediu		Concrete  Bentonite Seal  ity: N - Nonplastic L - Low rength: N - None L - Low		/lediur	n I	H - H	igh		A-2		

I-	IAL LD	EY&	æ H				GEO	PROBE REPOR	Г			Во	rin	g N	lo.		HA	<b>\-2</b>	04	
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			(	Casing	Sam	oler	Barrel	Drilling Equipment	and Procedures			nish iller			arc Dov			)12		
Тур	Δ			- uog	G			Rig Make & Model: Georg			1		Rep				ıg lleil	(0		
'			(i )	-			-	Bit Type: Geoprobe spoo					tion							
l		meter	` ′	-	2		-	Drill Mud: None				atun								
l		Neight	` ′	-	-		-	Casing: Hoist/Hammer: Autom	atic Hammer		Lo	cat	ion	Se	ee P	Plan				
Han		Fall (in	.)	-	-		-	PID Make & Model: Min												
(⊋	lows		e <del>(</del> ⊒	loqu	E (#)		VISUAL-	MANUAL IDENTIFICATION AN	ND DESCRIPTION	ings	_	avel		Sand	t			ield တွ	Tes	st
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	USCS Symbol	Stratum Change Elev/Depth (			color, GROUP NAME, max. pa cture, odor, moisture, optional GEOLOGIC INTERPRETA	descriptions	PID Readings (ppm)	% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	Strength
- 0 -	P	G1	0.0		0.3		-	BITUMINOUS CONCRETE	PAVING-											
	U S H	46	5.0		0.3			AL, CINDERS, SLAG in frag	ments, particles and	ND										
5 -	P U S H	G2 34	5.0 8.0		5.0	and sp		-ASH FILL- DAL, CINDERS, FLY ASH in k gray to gray, mps 0.8 in., n		ND										
								-ASH FILL-												
_					8.0															
							I	BOTTOM OF EXPLORATIO	N 8.0 FT											
		Wa	ater Le	evel Da	ta			Sample ID	Well Diagram			5	Sum	ma	ry					
D	ate	Time	Elap			n (ft) to Bottom		O - Open End Rod	Riser Pipe Screen	Over	bur	den	(ft	)	:	8.0				
oxdot			Time			of Hole	Water	T - Thin Wall Tube U - Undisturbed Sample	Filter Sand	Rock			(ft	,		-				
								S - Splitspoon Sample	Cuttings Grout	Sam	ples	3		G						
								G - Geoprobe	Concrete  Bentonite Seal	Bori	ng	No	<b>)</b> .		]	HA	-2(	)4		
Field	d Tests	: :		Dilatar	icy: R-I	Rapid	S - Slow 1		ity: N - Nonplastic L - L	ow M-1						le:	. 1 10 - 1			
*No	te: Ma			size is	determi	ned by	direct obs	servation within the limitation								very	nıg			_
		No	ote: S	oil ider	<u>itification</u>	on bas	ed on vis	sual-manual methods of th	e USCS as practiced	by Hale	y &	Ald	Irich	<u>ı, In</u>	C.					

I-A	IAL LD	EY& RICI	₹ H				GEO	PROBE REPORT	Γ			Во	rin	g N	No.		HA	<b>\-2</b>	05	
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			(	Casing	Sam	pler	Barrel	Drilling Equipment	and Procedures			nish iller			iarc Dov		, 20 ng	112		
Тур	е			-	G	,	-	Rig Make & Model: Geor			Н	&A F					lleil	κο		
Insid	de Dia	meter	(in.)	-	2		-	Bit Type: Geoprobe spoo	on			eva atun		1						
Han	nmer V	Veight	(lb)	-	-		-	Casing: Hoist/Hammer: Autom	atic Hammer		_	cat		S	ee I	Plan	1			
Han		all (in	.)	-	-		-	PID Make & Model: Min												
(ft)	3lows n.	No. (in.)	≘ (£	loqui	⊞ E Age E Age		VISUAL-	MANUAL IDENTIFICATION AN	ND DESCRIPTION	dings (	Gra	avel		San	_			ield s		
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	USCS Symbol	Stratum Change Elev/Depth (ft)			Color, GROUP NAME, max. pa ucture, odor, moisture, optional GEOLOGIC INTERPRETA	descriptions	PID Readings (ppm)	% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	Strength
- 0 -	P	G1	0.0		0.3			-BITUMINOUS CONCRETE	PAVING-											
-	U S H	45	5.0			fragr	nents, par	COAL, CINDERS, SLAG, BR ticles and specks, 5% sand, 5% n., no structure, no odor, moist	gravel, dark gray to	ND										
_					5.0			-ASH FILL-												
- 5 - -	P U S H	G2 29	5.0 8.0			fragr	nents, par	., ASH, CINDERS, SLAG, FI ticles and specks, 10% sand, 10 in., no structure, no odor, mo	0% gravel, dark gray to	ND										
-								-ASH FILL-												
					8.0			BOTTOM OF EXPLORATIO	N 8.0 FT											
		Wa		evel Da		L /60 :	<b>1</b>	Sample ID	Well Diagram  Riser Pipe			5	Sum	ıma	ry					_
D	ate	Time	Elap Time	(hr\B	ottom	h (ft) i Bottom of Hole	Water	O - Open End Rod T - Thin Wall Tube U - Undisturbed Sample S - Splitspoon Sample	Screen Filter Sand Cuttings	Over Rock Sam	Cc	red	•	•		8.0 -				
								G - Geoprobe	Grout Concrete Bentonite Seal	Bori	ng	No			]	HA	-2(	)5		
	d Tests			Tough	<u>ness: L</u>	- Low		m H - High Dry Str	ity: N - Nonplastic L - Lo rength: N - None L - Low							Very	/ Hig	h		
_*No	te: Ma							servation within the limitation is ual-manual methods of the		bv Hale	v &	Ald	Iricl	h. Ir	ıc.					

I-	IAL LD	EY&	æ H				GEOI	PROBE REPOR	Г			Во	rin	g N	lo.		HA	<b>\-2</b>	06	
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			(	Casing	Sam	oler	Barrel	Drilling Equipment	and Procedures			nish iller			arcl Dow			12		
Тур	<b>e</b>			_	G		_	Rig Make & Model: Georg	probe		1		Rep				ıs Ileil	co		
'		meter	(in )		2			Bit Type: Geoprobe spoo			El	eva	tion							
l		Neight	` ′	-	2		-	Drill Mud: None Casing:			_	atun								
l		Fall (in	` ′	-	-		-		atic Hammer		LC	cati	ion	Se	ee P	Plan				
- Tai			-,	- 			-	PID Make & Model: Min	iRAE 2000	· σ	Cr	avel		Sand	.			old	Tor	
€	Blow in.	Sample No. & Rec. (in.)	æ Œ	SCS Symbol	ge th (ft)		VISUAL-I	MANUAL IDENTIFICATION AN	ND DESCRIPTION	dings (r	_					ł		eld		
Depth (ft)	pler er 6	nple ?ec.	Sample Depth (ft)	(S. S.	tratu Shan Dep			Color, GROUP NAME, max. pa acture, odor, moisture, optional		Rea (ppm	Coarse	Fine	% Coarse	% Medium	ine	Fines	Dilatancy	Toughness	Plasticity	Strength
۵	Sampler Blows per 6 in.	Sar & F	ഗച്	nsc	Stratum Change Elev/Depth (		oud	GEOLOGIC INTERPRETA	TION)	PID Readings (ppm)	8	% F	% C	≥ %	% Fine	% F	Dila	Tou	Plas	Stre
- 0 -	P U S H	G1 44	0.0 5.0			fragn	nents, parti dark brov	CINDERS, SLAG, COAL, BRicles and specks, increasing as wn to black, mps 2 in., no odo	h with depth, 10%	ND										
-								-ASH FILL-												
- 5 - -	P U S H	G2 26	5.0 8.0		5.0			NDERS in fragments, particle dark gray, mps 1 in., no struc		ND				_						
								-ASH FILL-												
-					8.0															
							]	BOTTOM OF EXPLORATIO	N 8.0 FT						Ţ	1		1		
		Wa	ater Le	evel Da				Sample ID	Well Diagram			S	Sum	mai	ry					
D	ate	Time	Elap Time	(hr B	ottom	n (ft) t Bottom of Hole	Water	O - Open End Rod T - Thin Wall Tube U - Undisturbed Sample	Riser Pipe Screen Filter Sand Cuttings	Over Rock Sam	Cc	red	•			8.0				
								S - Splitspoon Sample G - Geoprobe	Grout Concrete					J.		HA	-20	)6		
Field	d Tests	 s:		Dilatan	ncy: R-I	Rapid - Low	S - Slow I M - Mediur		Bentonite Seal  ity: N - Nonplastic L - Lovength: N - None L - Low		Леdi	um	H -							
*No	te: Ma			size is	determi	ned by	direct obs	servation within the limitation sual-manual methods of the	s of sampler size.											

I A	IAL LD	EY& RICI	Σ H				GEO	PROBE REPOR	Γ			Во	rin	g N	lo.	]	HA	-2(	)7	
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			(	Casing	Sam	oler	Barrel	Drilling Equipment	and Procedures			nish iller			arch Dow			12		
Тур	e			-	G		-	Rig Make & Model: Geor	probe		1		Rep		D.		_	0		
Insid	de Dia	meter	(in.)	_	2		-	Bit Type: Geoprobe spoo Drill Mud: None	on			eva atun	tion							
Han	nmer V	Veight	(lb)	-	-		-	Casing:			-		ion	Se	ee P	lan				
Han		all (in	.)	-	-		-	Hoist/Hammer: Autom PID Make & Model: Min	atic Hammer iRAE 2000											
æ	Sampler Blows per 6 in.	No.	e Ê	loqu	Stratum Change Elev/Depth (ft)		VISUAL-	MANUAL IDENTIFICATION AN		ngs	_	avel		Sand	i			eld σ	Tes	;t
Depth (ft)	ler Bl r 6 in	ple l ec. (i	Sample Depth (ft)	Syn	ratun Jange Jepth			Color, GROUP NAME, max. pa		Readi	Coarse	Fine	% Coarse	% Medium	e e	Fines	ancy	Toughness	icity	gth
De	Samp	Sample No. & Rec. (in.)	Sa	USCS Symbol	Elevi of		stru	ucture, odor, moisture, optional GEOLOGIC INTERPRETA		PID Readings (ppm)	\ \ \ \ \ \ \ \	% Fir	کا %	% Me	% Fine	Fir	Dilatancy	Toug	Plasticity	Strength
- 0 -	P	G1	0.0				-	-BITUMINOUS CONCRETE	PAVING-											=
	U S	48	5.0		0.4			COAL, CINDERS in fragment		ND										
-	Н						sand, 10% moist	6 gravel, gray to black, mps 2	in., no structure, no											
- 5 -	P U S H	G2 30	5.0 8.0		5.0	partic	eles and sp	-ASH FILL-  COAL, CINDERS, WOOD Finecks, 10% sand, 10% gravel, cture, no odor, moist to wet in a contract to the contract to wet in the contract to the contra	dark gray to black, mps	ND										
-					8.0			BOTTOM OF EXPLORATIO	N 8.0 FT									+		
		Wa		vel Da		. / <b>f</b> th :		Sample ID	Well Diagram			S	Sum	maı	ry					_
D	ate	Time	Elap Time	(hr \ B	ottom	n (ft) to Bottom of Hole	o: Water	O - Open End Rod T - Thin Wall Tube U - Undisturbed Sample	Riser Pipe Screen Filter Sand Cuttings	Over	Co	red	` '	)		3.0				
								S - Splitspoon Sample G - Geoprobe	Grout  Concrete	Sam				G.		TA	-20	7		
<u> </u>				Dilata		Don:d	C Cla	N None Digetie	Bentonite Seal  ity: N - Nonplastic L - Lo	Bori	_			Hich		-4 1				
	d Tests		na:4! - I	Tough	ness: L	Low		m H - High Dry Str	ength: N - None L - Low	M - Me	diun	n H	⊓ - I I - Hi	gh	V - V	/ery	High	1		_
NO	ite. Ma							servation within the limitation sual-manual methods of th		by Hale	v &	Ald	lrich	ı, In	c.					

I-A	IAL LD	EY& RICI	Z H				GEO	PROBE REPOR	Г			Во	rin	g l	No.		HA	<b>A-2</b>	08	
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			(	Casing	Samp	oler	Barrel	Drilling Equipmen	t and Procedures			nish iller			Dov			112		
Тур	e			_	G		-	Rig Make & Model: Georg			Н	ßА Г					llei	ko		
Insid	de Dia	meter (	(in.)	_	2		_	Bit Type: Geoprobe spoo Drill Mud: None	on			eva atun		1						
Han	nmer V	Veight	(lb)	-	-		-	Casing:			-	cat		S	ee I	Plar	1			
Han		all (in.	.)	-	-		-	Hoist/Hammer: Autom	atic Hammer niRAE 2000											
Œ	lows I.	.) .)	e Ê	loqu	(f)		VISUAL	MANUAL IDENTIFICATION A	ND DESCRIPTION	ngs	-	avel		San	d				Tes	st
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	USCS Symbol	Stratum Change Elev/Depth (ft)			Color, GROUP NAME, max. pa ucture, odor, moisture, optional GEOLOGIC INTERPRETA	descriptions	PID Readings (ppm)	% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	Strength
<del>- 0 -</del>	P U S H	G1 50	0.0 5.0	SM	8	mps 6.0	1.2 in,. fr	y/brown interbedded silty SAN requent interbeds silty sand with no odor, moist, 50-60% ASH, opecks	gravel and ash up to	ND	5	_		_	25	_				
_					5.0			-FILL-												
- 5 -	P U S	G2 36	5.0 8.0		3.0		vn to gray,	INDERS in fragments, particle, mps 0.8 in., no structure, no		ND										
-	Н				6.2			-ASH FILL-												
				CL	0.2			gray lean $\overrightarrow{CLAY}$ $\overrightarrow{(CL)}$ , mps $\overrightarrow{0.6}$ pieces up to 0.1 in.	in., no odor, moist,						5	95	N	M	M	
-								-COHESIVE FILL-												
-				$\vdash$	8.0			BOTTOM OF EXPLORATIO	N 8.0 FT											
		Wa		evel Dat		, /£()	40.	Sample ID	Well Diagram					nma	ıry					_
D	ate	Time	Elap			Botton	1 Water	O - Open End Rod T - Thin Wall Tube	Screen	Over			•	•		8.0				
			+ -	` 10f (	Casing	of Hole	9	U - Undisturbed Sample S - Splitspoon Sample	Filter Sand Cuttings	Rock Sam			(11		<del>i</del> 2	-				
								G - Geoprobe	Grout Concrete	Bori			<b>)</b> .			HA	-20	08		
Field	d Tests	:		Dilatan	icy: R-F	Rapid	S - Slow		Bentonite Seal							\/-	.15	<u> </u>		
*No	te: Ma			e size is	determi	ned b	y direct ob	servation within the limitation								very	/ HIG	n		
Щ_		<u>No</u>	te: S	ioii iden	<u>itificatio</u>	<u>on ba</u>	sed on v	isual-manual methods of th	<u>ie USCS as practiced l</u>	<u>oy Hale</u>	<u>y &amp;</u>	Alc	ırıc	<u>n, Ir</u>	ıc.					

Sep 24, 12

H&A-GEOPROBE-07-1 W/ PID HA-LIB07-1-BOS.GLB HA-TB+CORE+WELL-07-1.GDT G:006318:620/FIELD\06318-520\_GEO.GPJ

### APPENDIX C

**Groundwater Well Installation Reports** 

#### **HA103 (OW)** Well No. **GROUNDWATER OBSERVATION WELL** HALEY& **ALDRICH INSTALLATION REPORT** Boring No. HA103 (OW) Well Diagram Project FORMER ENERGY INTERNATIONAL PARCEL File No. 06318-502 Location BOSTON, MA Riser Pipe Date Installed 1 Dec 2010 Screen H&A Rep. M. Dodson THE MCCOURT-BRODERICK LIMITED PARTNERSHIP Client Filter Sand Location As planned-center of GEOLOGIC-EARTH EXPLORATION, INC. Contractor Cuttings Grout Driller D. Jacobs Concrete 14.1 Ground El. Bentonite Seal Datum Boston City Base Initial Water Level (depth bgs) ft SOIL/ROCK ELEVATION (ft.) **WELL** GRAPHIC DEPTH (ft.) **DETAILS** WELL CONSTRUCTION DETAILS **CONDITIONS** Type of protective cover Compression - pent. bolt 0.0 14.1 Depth of Roadway Box below ground surface 0.0 ft -0 Depth of top of riser below ground surface 0.4 ft Δ 13.1 1.0 Roadway Box Type of protective casing Feb 7, 11 G:\06318\502\FIELD DATA\06318502GEO.GPJ HA-TB+CORE+WELL-07-1.GDT

			3.0	11.1	Length	
					Inside diameter 4.0 in.	
	-5		5.0	9.1	Depth of bottom of Roadway Box0.9 ft	
Feb 7, 11	-5		6.0	8.1	Type of riser pipe Schedule 40 PVC	
					Inside diameter of riser pipe 2.0 in.	
2GEO.GPJ					Depth of bottom of riser pipe6.0 ft	
G:\06318\502\FIELD DATA\06318502GEO.GPJ	FILL				Type of Seals Top of Seal (ft) Thickness (ft)	
ELD DA						
\502\FIE	-10				Bentonite 3.0 2.0	
3:\06318						
-07-1.G					Diameter of borehole 3.5 in.	
HA-TB+CORE+WELL-07-1.GDT		— 13.5			Depth to top of well screen6.0 ft	
HA-TB+					Type of screen Machine slotted Sch 40 PVC	
l l	-15				Screen gauge or size of openings	
B07-1-BO			16.7	-2.6	Diameter of screen 2.0 in.	
1 HA-LI	ORGANIC		17.5	-3.4	Type of Backfill around Screen Filter Sand_	
PORT-07-	DEPOSITS				Depth to bottom of well screen16.65 ft	
GW INSTALLATION REPORT-07-1 HA-LIB07-1-BOS.GLB					Bottom of silt trap None	
STALL/		-20.0	20.0	-5.9	Depth of bottom of borehole20.0 ft	
N WS						

#### **HA106 (OW)** Well No. **GROUNDWATER OBSERVATION WELL** HALEY& **ALDRICH** INSTALLATION REPORT Boring No. HA106 (OW) FORMER ENERGY INTERNATIONAL PARCEL Well Diagram **Project** File No. 06318-502 Location BOSTON, MA Riser Pipe Date Installed 1 Dec 2010 Screen H&A Rep. M. Dodson THE MCCOURT-BRODERICK LIMITED PARTNERSHIP Client Filter Sand Location As planned-center of Contractor GEOLOGIC-EARTH EXPLORATION, INC. Cuttings Grout Driller D. Jacobs Concrete Ground El. 15.2 Bentonite Seal Datum Boston City Base ft Initial Water Level (depth bgs) SOIL/ROCK ELEVATION (ft.) WELL DEPTH (ft.) GRAPHIC DEPTH (ft.) **DETAILS** WELL CONSTRUCTION DETAILS **CONDITIONS** Type of protective cover Compression - pent. bolt 0.0 15.2 Height of Roadway Box above ground surface 0.3 ft -0 Depth of top of riser below ground surface 0.2 ft Δ 1.0 14.2 PROBABLE RAILROAD BALLAST Roadway Box Type of protective casing 2.0 0.9 ft Length 4.0 in. 3.5 11.7 Inside diameter 0.6 ft Depth of bottom of Roadway Box -5 5.5 9.7 Type of riser pipe Schedule 40 PVC Feb 7, 11 6.5 8.7 Inside diameter of riser pipe 2.0 in. G:\06318\502\FIELD DATA\06318502GEO.GPJ Depth of bottom of riser pipe 6.5 ft Type of Seals Top of Seal (ft) Thickness (ft) 0.3 0.7Concrete -10 2.0 Bentonite 3.5 17.5 2.5 HA-TB+CORE+WELL-07-1.GDT FILL Diameter of borehole 3.5 in. Depth to top of well screen 6.5 ft Machine slotted Sch 40 PVC Type of screen 15 0.010 in. Screen gauge or size of openings HA-LIB07-1-BOS.GLB Diameter of screen 2.0 in. 16.5 -1.3 Type of Backfill around Screen Filter Sand **ORGANIC** 17.5 -2.3 NSTALLATION REPORT-07-1 **DEPOSITS** Depth to bottom of well screen 16.5 ft None Bottom of silt trap 20.0 -4.8 20.0 ft Depth of bottom of borehole 20.0

#### **HA111 (OW)** Well No. **GROUNDWATER OBSERVATION WELL** HALEY& **ALDRICH** INSTALLATION REPORT Boring No. HA111 (OW) Well Diagram FORMER ENERGY INTERNATIONAL PARCEL **Project** File No. 06318-502 Location BOSTON, MA Riser Pipe Date Installed 29 Nov 2010 Screen H&A Rep. M. Dodson THE MCCOURT-BRODERICK LIMITED PARTNERSHIP Client Filter Sand Location As planned-center of Contractor GEOLOGIC-EARTH EXPLORATION, INC. Cuttings Grout Driller D. Jacobs 14.3 Concrete Ground El. Bentonite Seal Datum Boston City Base 9.9 ft Initial Water Level (depth bgs) SOIL/ROCK ELEVATION (ft.) WELL DEPTH (ft.) GRAPHIC DEPTH (ft.) **DETAILS** WELL CONSTRUCTION DETAILS **CONDITIONS** Type of protective cover Compression - pent. bolt 0.0 14.3 Depth of Roadway Box below ground surface 0.0 ft-0 ASPHALT 0.4 Depth of top of riser below ground surface 0.3 ft Δ 1.0 13.3 1.5 12.8 Roadway Box Type of protective casing 0.9 ft Length **FILL** 4.0 in. 3.5 10.8 Inside diameter 0.9 ft 4.5 9.8 Depth of bottom of Roadway Box Type of riser pipe Schedule 40 PVC 5.5 Feb 7, 11 Inside diameter of riser pipe 2.0 in. G:\06318\502\FIELD DATA\06318502GEO.GPJ Depth of bottom of riser pipe 4.5 ft Top of Seal (ft) Type of Seals Thickness (ft) 0.0 1.0 Concrete -10 2.0 Bentonite 1.5 HA-TB+CORE+WELL-07-1.GDT Diameter of borehole 3.5 in. COHESIVE FILL Depth to top of well screen 4.5 ft

-15

16.0

20.0

ORGANIC **DEPOSITS** 

HA-LIB07-1-BOS.GLB

**NSTALLATION REPORT-07-1** 

Type of screen

Diameter of screen

Depth of bottom of borehole

Bottom of silt trap

20.0

-5.7

Screen gauge or size of openings

Type of Backfill around Screen

Depth to bottom of well screen

Machine slotted Sch 40 PVC

0.010 in.

2.0 in.

Filter Sand

14.5 ft

None

20.0 ft

### APPENDIX D

**Laboratory Data Reports** 

(Provided Electronically on CD)



#### ANALYTICAL REPORT

Lab Number: L1100274

Client: Haley & Aldrich, Inc.

465 Medford Street, Suite 2200 Charlestown, MA 02129-1400

ATTN: Cole Worthy
Phone: (617) 886-7341

Project Name: FORMER ENERGY INTERNATIONAL

Project Number: 06318-502

Report Date: 01/13/11

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name:FORMER ENERGY INTERNATIONALLab Number:L1100274

**Project Number:** 06318-502 **Report Date:** 01/13/11

Alpha Sample Collection
Sample ID Client ID Coation Date/Time

L1100274-01 HA103(OW) Not Specified 01/06/11 09:45

Project Number: 06318-502 Report Date: 01/13/11

### **MADEP MCP Response Action Analytical Report Certification**

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An af	firmative response to questions A through F is required for "Presumptive Certainty" status	
Α	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A res	sponse to questions G, H and I is required for "Presumptive Certainty" status	
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
Н	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name:FORMER ENERGY INTERNATIONALLab Number:L1100274Project Number:06318-502Report Date:01/13/11

#### **Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

|--|--|

MCP Related Narratives

Sample Receipt

The samples were Field Filtered for Dissolved Metals only.

Volatile Organics

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The initial calibration, associated with L1100274-01, did not meet the method required minimum response factor for 4-Methyl-2-pentanone (0.0921) and 1,4-Dioxane (0.00185); and utilized a quadratic fit for Chloroethane and Acetone.

The continuing calibration standard, associated with L1100274-01, is outside the acceptance criteria for



Project Name:FORMER ENERGY INTERNATIONALLab Number:L1100274Project Number:06318-502Report Date:01/13/11

#### Case Narrative (continued)

several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

#### **EPH**

In reference to question H:

The WG450898-2/-3 LCS/LCSD RPD, associated with L1100274-01, is above the acceptance criteria for Triacontane (C30) (65%); however, the individual LCS/LCSD recoveries are within method limits. In reference to question I:

All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

#### **PCB**

In reference to question H:

The surrogate recovery for the WG450894-1 Method Blank, associated with L1100274-01, is outside the individual acceptance criteria for Decachlorobiphenyl (153%), but within the overall method allowances. The results of the original analysis are reported; however, all associated compounds are considered to have a potential bias.

The WG450894-2 LCS recovery, associated with L1100274-01, was above the acceptance criteria for Aroclor 1260 (164%); however, the associated sample was non-detect for this target compound. The results of the original analysis are reported. In addition, the associated WG450894-2/-3 LCS/LCSD RPD is above the acceptance criteria for Aroclor 1260 (29%).

The WG450894-2/-3 LCS/LCSD RPD, associated with L1100274-01, is above the acceptance criteria for Aroclor 1016 (31%); however, the individual LCS/LCSD recoveries are within method limits.

The surrogate recoveries for WG450894-2 LCS, associated with L1100274-01, are above the acceptance criteria for Decachlorobiphenyl (191%/184%).

#### **Dissolved Metals**

L1100274-01 has elevated detection limits for Antimony and Thallium due to the dilutions required by the high concentrations of non-target analytes.



Project Name: FORMER ENERGY INTERNATIONAL Lab Number: L1100274
Project Number: 06318-502 Report Date: 01/13/11

**Case Narrative (continued)** 

In reference to question G:

L1100274-01: One or more of the target analytes did not achieve the requested CAM reporting limits.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Elizabeth & Simmons Elizabeth Simmons

Authorized Signature:

Title: Technical Director/Representative

Date: 01/13/11



### **ORGANICS**



### **VOLATILES**



Project Name: FORMER ENERGY INTERNATIONAL Lab Number: L1100274

**Project Number:** 06318-502 **Report Date:** 01/13/11

### **SAMPLE RESULTS**

Lab ID: Date Collected: 01/06/11 09:45

Client ID: HA103(OW) Date Received: 01/06/11
Sample Location: Not Specified Field Prep: See Narrative

Matrix: Water
Analytical Method: 97,8260B
Analytical Date: 01/10/11 11:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough I	_ab					
Methylene chloride	ND		ug/l	2.0		1
1,1-Dichloroethane	ND		ug/l	1.0		1
Chloroform	ND		ug/l	1.0		1
Carbon tetrachloride	ND		ug/l	1.0		1
1,2-Dichloropropane	ND		ug/l	1.0		1
Dibromochloromethane	ND		ug/l	1.0		1
1,1,2-Trichloroethane	ND		ug/l	1.0		1
Tetrachloroethene	ND		ug/l	1.0		1
Chlorobenzene	ND		ug/l	1.0		1
Trichlorofluoromethane	ND		ug/l	2.0		1
1,2-Dichloroethane	ND		ug/l	1.0		1
1,1,1-Trichloroethane	ND		ug/l	1.0		1
Bromodichloromethane	ND		ug/l	1.0		1
trans-1,3-Dichloropropene	ND		ug/l	0.50		1
cis-1,3-Dichloropropene	ND		ug/l	0.50		1
1,1-Dichloropropene	ND		ug/l	2.0		1
Bromoform	ND		ug/l	2.0		1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0		1
Benzene	ND		ug/l	1.0		1
Toluene	ND		ug/l	1.0		1
Ethylbenzene	ND		ug/l	1.0		1
Chloromethane	ND		ug/l	2.0		1
Bromomethane	ND		ug/l	2.0		1
Vinyl chloride	ND		ug/l	1.0		1
Chloroethane	ND		ug/l	2.0		1
1,1-Dichloroethene	ND		ug/l	1.0		1
trans-1,2-Dichloroethene	ND		ug/l	1.0		1
Trichloroethene	ND		ug/l	1.0		1
1,2-Dichlorobenzene	ND		ug/l	1.0		1
1,3-Dichlorobenzene	ND		ug/l	1.0		1



Project Name: FORMER ENERGY INTERNATIONAL Lab Number: L1100274

### **SAMPLE RESULTS**

Lab ID: Date Collected: 01/06/11 09:45

Client ID: HA103(OW) Date Received: 01/06/11
Sample Location: Not Specified Field Prep: See Narrative

Parameter MDL Result Qualifier Units RL **Dilution Factor** MCP Volatile Organics - Westborough Lab 1,4-Dichlorobenzene ND ug/l 1.0 1 Methyl tert butyl ether 15 2.0 1 ug/l ND p/m-Xylene ug/l 2.0 1 o-Xylene ND ug/l 1.0 1 ND cis-1,2-Dichloroethene ug/l 1.0 1 --Dibromomethane ND ug/l 2.0 1 --1,2,3-Trichloropropane ND ug/l 2.0 1 ND Styrene ug/l 1.0 1 --Dichlorodifluoromethane ND ug/l 2.0 1 ND Acetone ug/l 5.0 1 Carbon disulfide ND ug/l 2.0 1 --2-Butanone ND ug/l 5.0 1 4-Methyl-2-pentanone ND 5.0 1 ug/l 2-Hexanone ND ug/l 5.0 1 Bromochloromethane ND ug/l 2.0 1 Tetrahydrofuran ND ug/l 5.0 --1 ND 2,2-Dichloropropane ug/l 2.0 1 1,2-Dibromoethane ND ug/l 2.0 1 ND 1,3-Dichloropropane ug/l 2.0 1 --ND 1,1,1,2-Tetrachloroethane ug/l 1.0 1 Bromobenzene ND ug/l 2.0 --1 ND n-Butylbenzene ug/l 2.0 1 -sec-Butylbenzene ND ug/l 2.0 1 ND tert-Butylbenzene ug/l 2.0 1 o-Chlorotoluene ND ug/l 2.0 1 p-Chlorotoluene ND ug/l 2.0 1 ND 1,2-Dibromo-3-chloropropane ug/l 2.0 1 Hexachlorobutadiene ND ug/l 0.60 1 --Isopropylbenzene ND ug/l 2.0 1 ND p-Isopropyltoluene ug/l 2.0 1 Naphthalene ND ug/l 2.0 1 n-Propylbenzene ND ug/l 2.0 1 ND 2.0 1,2,3-Trichlorobenzene ug/l 1 --1,2,4-Trichlorobenzene ND ug/l 2.0 1 --1,3,5-Trimethylbenzene ND ug/l 2.0 1 1,2,4-Trimethylbenzene ND ug/l 2.0 1 Ethyl ether ND ug/l 2.0 1



Project Name: FORMER ENERGY INTERNATIONAL Lab Number: L1100274

**Project Number:** 06318-502 **Report Date:** 01/13/11

**SAMPLE RESULTS** 

Lab ID: L1100274-01

Client ID: HA103(OW)
Sample Location: Not Specified

Date Collected:

01/06/11 09:45

Date Received:

01/06/11

Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Isopropyl Ether	ND		ug/l	2.0		1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0		1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0		1
1,4-Dioxane	ND		ug/l	250		1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,2-Dichloroethane-d4	97		70-130	
Toluene-d8	92		70-130	
4-Bromofluorobenzene	94		70-130	
Dibromofluoromethane	108		70-130	

> Method Blank Analysis Batch Quality Control

Analytical Method: 97,8260B Analytical Date: 01/10/11 09:50

Parameter	Result Qual	ifier Units	RL	MDL
MCP Volatile Organics	- Westborough Lab for sample	e(s): 01 Batch	: WG451091-3	
Methylene chloride	ND	ug/l	2.0	
1,1-Dichloroethane	ND	ug/l	1.0	
Chloroform	ND	ug/l	1.0	
Carbon tetrachloride	ND	ug/l	1.0	
1,2-Dichloropropane	ND	ug/l	1.0	
Dibromochloromethane	ND	ug/l	1.0	
1,1,2-Trichloroethane	ND	ug/l	1.0	
Tetrachloroethene	ND	ug/l	1.0	
Chlorobenzene	ND	ug/l	1.0	
Trichlorofluoromethane	ND	ug/l	2.0	
1,2-Dichloroethane	ND	ug/l	1.0	
1,1,1-Trichloroethane	ND	ug/l	1.0	
Bromodichloromethane	ND	ug/l	1.0	
trans-1,3-Dichloropropene	ND	ug/l	0.50	
cis-1,3-Dichloropropene	ND	ug/l	0.50	
1,1-Dichloropropene	ND	ug/l	2.0	
Bromoform	ND	ug/l	2.0	
1,1,2,2-Tetrachloroethane	ND	ug/l	1.0	
Benzene	ND	ug/l	1.0	
Toluene	ND	ug/l	1.0	
Ethylbenzene	ND	ug/l	1.0	
Chloromethane	ND	ug/l	2.0	
Bromomethane	ND	ug/l	2.0	
Vinyl chloride	ND	ug/l	1.0	
Chloroethane	ND	ug/l	2.0	
1,1-Dichloroethene	ND	ug/l	1.0	
trans-1,2-Dichloroethene	ND	ug/l	1.0	
Trichloroethene	ND	ug/l	1.0	
1,2-Dichlorobenzene	ND	ug/l	1.0	
1,3-Dichlorobenzene	ND	ug/l	1.0	
1,4-Dichlorobenzene	ND	ug/l	1.0	



> Method Blank Analysis Batch Quality Control

Analytical Method: 97,8260B Analytical Date: 01/10/11 09:50

Parameter	Result Qualifier	U	nits	RL	MDL
MCP Volatile Organics -	Westborough Lab for sample(s):	01 l	Batch:	WG451091-3	
Methyl tert butyl ether	ND		ug/l	2.0	
p/m-Xylene	ND		ug/l	2.0	
o-Xylene	ND		ug/l	1.0	
cis-1,2-Dichloroethene	ND		ug/l	1.0	
Dibromomethane	ND		ug/l	2.0	
1,2,3-Trichloropropane	ND		ug/l	2.0	
Styrene	ND		ug/l	1.0	
Dichlorodifluoromethane	ND		ug/l	2.0	
Acetone	ND		ug/l	5.0	
Carbon disulfide	ND		ug/l	2.0	
2-Butanone	ND		ug/l	5.0	
4-Methyl-2-pentanone	ND		ug/l	5.0	
2-Hexanone	ND		ug/l	5.0	
Bromochloromethane	ND		ug/l	2.0	
Tetrahydrofuran	ND		ug/l	5.0	
2,2-Dichloropropane	ND		ug/l	2.0	
1,2-Dibromoethane	ND		ug/l	2.0	
1,3-Dichloropropane	ND		ug/l	2.0	
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	
Bromobenzene	ND		ug/l	2.0	
n-Butylbenzene	ND		ug/l	2.0	
sec-Butylbenzene	ND		ug/l	2.0	
tert-Butylbenzene	ND		ug/l	2.0	
o-Chlorotoluene	ND		ug/l	2.0	
p-Chlorotoluene	ND		ug/l	2.0	
1,2-Dibromo-3-chloropropa	ne ND		ug/l	2.0	
Hexachlorobutadiene	ND		ug/l	0.60	
Isopropylbenzene	ND		ug/l	2.0	
p-Isopropyltoluene	ND		ug/l	2.0	
Naphthalene	ND		ug/l	2.0	
n-Propylbenzene	ND		ug/l	2.0	



> Method Blank Analysis Batch Quality Control

Analytical Method: 97,8260B Analytical Date: 01/10/11 09:50

Parameter	Result	Qualifier		Units	RL	MDL	
MCP Volatile Organics - Westborou	gh Lab for	sample(s):	01	Batch:	WG451091-3		
1,2,3-Trichlorobenzene	ND			ug/l	2.0		
1,2,4-Trichlorobenzene	ND			ug/l	2.0		
1,3,5-Trimethylbenzene	ND			ug/l	2.0		
1,2,4-Trimethylbenzene	ND			ug/l	2.0		
Ethyl ether	ND			ug/l	2.0		
Isopropyl Ether	ND			ug/l	2.0		
Ethyl-Tert-Butyl-Ether	ND			ug/l	2.0		
Tertiary-Amyl Methyl Ether	ND			ug/l	2.0		
1,4-Dioxane	ND			ug/l	250		

Acceptance						
%Recovery	Qualifier	Criteria				
95		70-130				
92		70-130				
93		70-130				
107		70-130				
	95 92 93	%Recovery Qualifier  95 92 93	%Recovery         Qualifier         Criteria           95         70-130           92         70-130           93         70-130			



**Project Name:** FORMER ENERGY INTERNATIONAL

**Project Number:** 06318-502

Lab Number: L1100274

Parameter	LCS %Recovery	Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab A	ssociated samp	le(s): 01	Batch: WG4510	091-1 WG451091-2			
Methylene chloride	96		95	70-130	1		20
1,1-Dichloroethane	91		91	70-130	0		20
Chloroform	95		96	70-130	1		20
Carbon tetrachloride	116		118	70-130	2		20
1,2-Dichloropropane	87		87	70-130	0		20
Dibromochloromethane	105		102	70-130	3		20
1,1,2-Trichloroethane	91		89	70-130	2		20
Tetrachloroethene	108		110	70-130	2		20
Chlorobenzene	95		95	70-130	0		20
Trichlorofluoromethane	113		115	70-130	2		20
1,2-Dichloroethane	91		91	70-130	0		20
1,1,1-Trichloroethane	104		106	70-130	2		20
Bromodichloromethane	100		99	70-130	1		20
trans-1,3-Dichloropropene	115		113	70-130	2		20
cis-1,3-Dichloropropene	98		100	70-130	2		20
1,1-Dichloropropene	96		98	70-130	2		20
Bromoform	122		119	70-130	2		20
1,1,2,2-Tetrachloroethane	84		83	70-130	1		20
Benzene	95		96	70-130	1		20
Toluene	93		93	70-130	0		20
Ethylbenzene	99		98	70-130	1		20



**Project Name:** FORMER ENERGY INTERNATIONAL

**Project Number:** 06318-502

Lab Number: L1100274

arameter	LCS %Recovery	Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	Qual	RPD Limits
ICP Volatile Organics - Westborough Lab	Associated samp	le(s): 01	Batch: WG4510	091-1 WG451091-2			
Chloromethane	85		86	70-130	1		20
Bromomethane	92		91	70-130	1		20
Vinyl chloride	80		82	70-130	2		20
Chloroethane	98		103	70-130	5		20
1,1-Dichloroethene	104		106	70-130	2		20
trans-1,2-Dichloroethene	94		96	70-130	2		20
Trichloroethene	99		99	70-130	0		20
1,2-Dichlorobenzene	96		96	70-130	0		20
1,3-Dichlorobenzene	98		98	70-130	0		20
1,4-Dichlorobenzene	96		96	70-130	0		20
Methyl tert butyl ether	91		90	70-130	1		20
p/m-Xylene	102		102	70-130	0		20
o-Xylene	101		100	70-130	1		20
cis-1,2-Dichloroethene	96		97	70-130	1		20
Dibromomethane	94		94	70-130	0		20
1,2,3-Trichloropropane	85		84	70-130	1		20
Styrene	99		99	70-130	0		20
Dichlorodifluoromethane	92		91	70-130	1		20
Acetone	83		83	70-130	0		20
Carbon disulfide	92		93	70-130	1		20
2-Butanone	96		94	70-130	2		20



**Project Name:** FORMER ENERGY INTERNATIONAL

**Project Number:** 06318-502

Lab Number: L1100274

Parameter	LCS %Recovery	Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab A	ssociated samp	ole(s): 01	Batch: WG4510	091-1 WG451091-2			
4-Methyl-2-pentanone	96		93	70-130	3		20
2-Hexanone	89		85	70-130	5		20
Bromochloromethane	99		102	70-130	3		20
Tetrahydrofuran	79		80	70-130	1		20
2,2-Dichloropropane	115		116	70-130	1		20
1,2-Dibromoethane	96		95	70-130	1		20
1,3-Dichloropropane	92		88	70-130	4		20
1,1,1,2-Tetrachloroethane	113		112	70-130	1		20
Bromobenzene	99		99	70-130	0		20
n-Butylbenzene	90		91	70-130	1		20
sec-Butylbenzene	94		93	70-130	1		20
tert-Butylbenzene	95		95	70-130	0		20
o-Chlorotoluene	91		91	70-130	0		20
p-Chlorotoluene	88		100	70-130	13		20
1,2-Dibromo-3-chloropropane	100		94	70-130	6		20
Hexachlorobutadiene	105		105	70-130	0		20
Isopropylbenzene	101		100	70-130	1		20
p-Isopropyltoluene	99		100	70-130	1		20
Naphthalene	76		76	70-130	0		20
n-Propylbenzene	93		94	70-130	1		20
1,2,3-Trichlorobenzene	91		90	70-130	1		20



**Project Name:** FORMER ENERGY INTERNATIONAL

**Project Number:** 06318-502

Lab Number: L1100274

arameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab	Associated samp	ole(s): 01	Batch: WG4510	091-1 WG45	51091-2			
1,2,4-Trichlorobenzene	93		93		70-130	0		20
1,3,5-Trimethylbenzene	92		93		70-130	1		20
1,2,4-Trimethylbenzene	93		93		70-130	0		20
Ethyl ether	105		106		70-130	1		20
Isopropyl Ether	88		88		70-130	0		20
Ethyl-Tert-Butyl-Ether	94		93		70-130	1		20
Tertiary-Amyl Methyl Ether	97		98		70-130	1		20
1,4-Dioxane	112		111		70-130	1		20

	LCS		LCSD		Acceptance	
Surrogate	%Recovery	Qual	%Recovery	Qual	Criteria	
1,2-Dichloroethane-d4	92		89		70-130	
Toluene-d8	97		97		70-130	
4-Bromofluorobenzene	93		93		70-130	
Dibromofluoromethane	99		97		70-130	



### PETROLEUM HYDROCARBONS



Project Name: FORMER ENERGY INTERNATIONAL Lab Number: L1100274

Project Number: 06318-502 Report Date: 01/13/11

**SAMPLE RESULTS** 

Lab ID: Date Collected: 01/06/11 09:45

Client ID: HA103(OW) Date Received: 01/06/11
Sample Location: Not Specified Field Prep: See Narrative

Matrix: Water Extraction Method: EPA 3510C

Analytical Method: 98,EPH-04-1.1 Extraction Date: 01/10/11 08:03
Analytical Date: 01/11/11 21:18 Cleanup Method1: EPH-04-1

Analyst: NH Cleanup Date1: 01/10/11

**Quality Control Information** 

Condition of sample received: Satisfactory

Aqueous Preservative:

Laboratory Provided Preserved
Container

Sample Temperature upon receipt: Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ons - Westborough L	ab				
C9-C18 Aliphatics	ND		ug/l	103		1
C19-C36 Aliphatics	ND		ug/l	103		1
C11-C22 Aromatics	ND		ug/l	103		1
C11-C22 Aromatics. Adjusted	ND		ua/l	103		1

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	64		40-140		
o-Terphenyl	71		40-140		
2-Fluorobiphenyl	59		40-140		
2-Bromonaphthalene	61		40-140		



**Project Name:** Lab Number: FORMER ENERGY INTERNATIONAL L1100274

**Project Number:** 06318-502 Report Date: 01/13/11

> **Method Blank Analysis Batch Quality Control**

Analytical Method: 98,EPH-04-1.1 Analytical Date: 01/11/11 14:55

Analyst: NH Extraction Method: EPA 3510C 01/10/11 08:03 Extraction Date: Cleanup Method1: EPH-04-1

Cleanup Date1: 01/10/11

Parameter	Result	Qualifier	Units		RL	MDL
Extractable Petroleum Hydrocarb	ons - Westbo	rough Lab fo	or sample(s):	01	Batch:	WG450898-1
C9-C18 Aliphatics	ND		ug/l		100	
C19-C36 Aliphatics	ND		ug/l		100	
C11-C22 Aromatics	ND		ug/l		100	
C11-C22 Aromatics, Adjusted	ND		ug/l		100	

		Acceptance				
Surrogate	%Recovery	Qualifier	Criteria			
Chloro-Octadecane	72		40-140			
o-Terphenyl	77		40-140			
2-Fluorobiphenyl	70		40-140			
2-Bromonaphthalene	71		40-140			



**Project Name:** FORMER ENERGY INTERNATIONAL

**Project Number:** 06318-502

Lab Number: L1100274

arameter	LCS %Recovery	LCSD Qual %Recovery	%Recovery Qual Limits	RPD	Qual	RPD Limits
extractable Petroleum Hydrocarbons - Westh	oorough Lab Ass	sociated sample(s): 01	Batch: WG450898-2 WG450	898-3		
C9-C18 Aliphatics	66	62	40-140	6		25
C19-C36 Aliphatics	88	84	40-140	5		25
C11-C22 Aromatics	78	91	40-140	15		25
Naphthalene	77	69	40-140	11		25
2-Methylnaphthalene	80	79	40-140	1		25
Acenaphthylene	86	92	40-140	7		25
Acenaphthene	77	85	40-140	10		25
Fluorene	72	86	40-140	18		25
Phenanthrene	81	94	40-140	15		25
Anthracene	80	90	40-140	12		25
Fluoranthene	74	91	40-140	21		25
Pyrene	79	94	40-140	17		25
Benzo(a)anthracene	71	87	40-140	20		25
Chrysene	71	89	40-140	23		25
Benzo(b)fluoranthene	71	86	40-140	19		25
Benzo(k)fluoranthene	70	86	40-140	21		25
Benzo(a)pyrene	70	86	40-140	21		25
Indeno(1,2,3-cd)Pyrene	71	87	40-140	20		25
Dibenzo(a,h)anthracene	69	85	40-140	21		25
Benzo(ghi)perylene	70	87	40-140	22		25
Nonane (C9)	57	48	30-140	17		25



**Project Name:** FORMER ENERGY INTERNATIONAL

**Project Number:** 06318-502

Lab Number: L1100274

arameter	LCS %Recovery	Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	Qual	RPD Limits
xtractable Petroleum Hydrocarbons - Wes	stborough Lab Ass	sociated sa	mple(s): 01 Bat	ch: WG450898-2 WG45	0898-3		
Decane (C10)	65		55	40-140	17		25
Dodecane (C12)	69		61	40-140	12		25
Tetradecane (C14)	73		72	40-140	1		25
Hexadecane (C16)	79		81	40-140	3		25
Octadecane (C18)	86		87	40-140	1		25
Nonadecane (C19)	88		90	40-140	2		25
Eicosane (C20)	87		90	40-140	3		25
Docosane (C22)	88		91	40-140	3		25
Tetracosane (C24)	88		93	40-140	6		25
Hexacosane (C26)	89		92	40-140	3		25
Octacosane (C28)	88		90	40-140	2		25
Triacontane (C30)	90		46	40-140	65	Q	25
Hexatriacontane (C36)	91		92	40-140	1		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
Chloro-Octadecane	82		80		40-140	
o-Terphenyl	74		89		40-140	
2-Fluorobiphenyl	69		71		40-140	
2-Bromonaphthalene	74		75		40-140	
% Naphthalene Breakthrough	0		0			
% 2-Methylnaphthalene Breakthrough	0		0			



## **PCBS**



Serial\_No:01131116:29

Project Name: FORMER ENERGY INTERNATIONAL Lab Number: L1100274

**Project Number:** 06318-502 **Report Date:** 01/13/11

## **SAMPLE RESULTS**

Lab ID: Date Collected: 01/06/11 09:45

Client ID: HA103(OW) Date Received: 01/06/11
Sample Location: Not Specified Field Prep: See Narrative

Matrix: Water Fytraction Method: ERA 3510C

Matrix: Water Extraction Method: EPA 3510C

Analytical Method: 97,8082 Extraction Date: 01/10/11 07:58

Analytical Date: 01/11/11 09:05 Cleanup Method1: EPA 3665A
Analyst: KB Cleanup Date1: 01/11/11
Cleanup Method2: EPA 3660B

Cleanup Method2: EPA 366 Cleanup Date2: 01/11/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westl	borough Lab					
Aroclor 1016	ND		ug/l	0.250		1
Aroclor 1221	ND		ug/l	0.250		1
Aroclor 1232	ND		ug/l	0.250		1
Aroclor 1242	ND		ug/l	0.250		1
Aroclor 1248	ND		ug/l	0.250		1
Aroclor 1254	ND		ug/l	0.250		1
Aroclor 1260	ND		ug/l	0.250		1
Aroclor 1262	ND		ug/l	0.250		1
Aroclor 1268	ND		ug/l	0.250		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	82		30-150	A
Decachlorobiphenyl	144		30-150	А
2,4,5,6-Tetrachloro-m-xylene	79		30-150	В
Decachlorobiphenyl	139		30-150	В



**Project Name:** FORMER ENERGY INTERNATIONAL

**Project Number:** 06318-502 Lab Number:

L1100274

Report Date:

01/13/11

**Method Blank Analysis Batch Quality Control** 

Analytical Method: Analytical Date:

97,8082 01/11/11 10:46

Analyst:

KΒ

Aroclor 1260

Aroclor 1262

Aroclor 1268

Extraction Method: EPA 3510C

01/10/11 07:58

**Extraction Date:** Cleanup Method1:

EPA 3665A

Cleanup Date1: Cleanup Method2: Cleanup Date2:

01/11/11 EPA 3660B

01/11/11

Parameter	Result	Qualifier	Units	RL	MDL	
MCP Polychlorinated Biphenyls	- Westborough	Lab for sam	ple(s): 01	Batch: WG45	0894-1	
Aroclor 1016	ND		ug/l	0.250		
Aroclor 1221	ND		ug/l	0.250		
Aroclor 1232	ND		ug/l	0.250		
Aroclor 1242	ND		ug/l	0.250		
Aroclor 1248	ND		ug/l	0.250		
Aroclor 1254	ND		ug/l	0.250		

ug/l

ug/l

ug/l

0.250 0.250

0.250

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			Acceptance	•
Surrogate	%Recovery	Qualifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	61		30-150	Α
Decachlorobiphenyl	112		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	71		30-150	В
Decachlorobiphenyl	153	Q	30-150	В

ND

ND

ND



# Lab Control Sample Analysis Batch Quality Control

**Project Name:** FORMER ENERGY INTERNATIONAL

Lab Number:

L1100274 01/13/11

**Project Number:** 06318-502

Report Date:

Parameter	LCS %Recovery	Qual	LCSD %Recovery	% Qual	Recovery Limits	RPD	Qual	RPD Limits
MCP Polychlorinated Biphenyls - Westborou	gh Lab Associa	ted sample(s)	: 01 Batch:	WG450894-2	WG450894-3			
Aroclor 1016	133		97		40-140	31	Q	20
Aroclor 1260	164	Q	123		40-140	29	Q	20

	LCS		LCSD		Acceptance	<b>)</b>
Surrogate	%Recovery	Qual	%Recovery	Qual	Criteria	Column
2.4.5.C. Tatrocklara ra valena	00		70		20.450	Δ.
2,4,5,6-Tetrachloro-m-xylene	99		76		30-150	Α
Decachlorobiphenyl	191	Q	105		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	94		70		30-150	В
Decachlorobiphenyl	184	Q	104		30-150	В



## **METALS**



L1100274

01/13/11

**Project Name:** FORMER ENERGY INTERNATIONAL

**Project Number:** 06318-502

**SAMPLE RESULTS** 

Date Collected: 01/06/11 09:45

Lab Number:

**Report Date:** 

Lab ID: L1100274-01 Client ID: HA103(OW)

Sample Location: Not Specified

Matrix: Water

Date Received: 01/06/11

Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Dissolved Met	tals - Wes	tborough L	.ab								
Antimony, Dissolved	0.0020		mg/l	0.0020		4	01/07/11 12:20	01/10/11 20:45	EPA 3005A	97,6020A	ВМ
Arsenic, Dissolved	ND		mg/l	0.005		1	01/07/11 09:45	5 01/13/11 09:31	EPA 3005A	97,6010B	AI
Barium, Dissolved	0.293		mg/l	0.010		1	01/07/11 09:45	5 01/13/11 09:31	EPA 3005A	97,6010B	AI
Beryllium, Dissolved	ND		mg/l	0.004		1	01/07/11 09:45	5 01/13/11 09:31	EPA 3005A	97,6010B	Al
Cadmium, Dissolved	ND		mg/l	0.004		1	01/07/11 09:45	5 01/13/11 09:31	EPA 3005A	97,6010B	Al
Chromium, Dissolved	ND		mg/l	0.01		1	01/07/11 09:45	5 01/13/11 09:31	EPA 3005A	97,6010B	Al
Lead, Dissolved	ND		mg/l	0.010		1	01/07/11 09:45	5 01/13/11 09:31	EPA 3005A	97,6010B	Al
Mercury, Dissolved	ND		mg/l	0.0002		1	01/07/11 11:00	01/07/11 16:17	' EPA 7470A	97,7470A	KR
Nickel, Dissolved	ND		mg/l	0.025		1	01/07/11 09:45	5 01/13/11 09:31	EPA 3005A	97,6010B	Al
Selenium, Dissolved	ND		mg/l	0.010		1	01/07/11 09:45	5 01/13/11 09:31	EPA 3005A	97,6010B	Al
Silver, Dissolved	ND		mg/l	0.007		1	01/07/11 09:45	5 01/13/11 09:31	EPA 3005A	97,6010B	Al
Thallium, Dissolved	ND		mg/l	0.0020		4	01/07/11 12:20	01/10/11 20:45	5 EPA 3005A	97,6020A	ВМ
Vanadium, Dissolved	ND		mg/l	0.010		1	01/07/11 09:45	5 01/13/11 09:31	EPA 3005A	97,6010B	Al
Zinc, Dissolved	ND		mg/l	0.050		1	01/07/11 09:45	5 01/13/11 09:31	EPA 3005A	97,6010B	Al



Serial\_No:01131116:29

**Project Name:** FORMER ENERGY INTERNATIONAL

Project Number: 06318-502

Lab Number:

L1100274

**Report Date:** 01/13/11

# Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	
MCP Dissolved Metals -	- Westborough Lab for	sample(s)	): 01	Batch:	WG450731	-1			
Mercury, Dissolved	ND	mg/l	0.0002	<u></u>	1	01/07/11 11:00	01/07/11 16:11	97,7470A	KR

## **Prep Information**

Digestion Method: EPA 7470A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Dissolved Metals - \	Westborough Lab for	sample(s)	: 01	Batch:	WG450748	-1			
Arsenic, Dissolved	ND	mg/l	0.005		1	01/07/11 09:45	01/13/11 09:22	97,6010B	AI
Barium, Dissolved	ND	mg/l	0.010		1	01/07/11 09:45	01/13/11 09:22	97,6010B	AI
Beryllium, Dissolved	ND	mg/l	0.004		1	01/07/11 09:45	01/13/11 09:22	97,6010B	AI
Cadmium, Dissolved	ND	mg/l	0.004		1	01/07/11 09:45	01/13/11 09:22	97,6010B	AI
Chromium, Dissolved	ND	mg/l	0.01		1	01/07/11 09:45	01/13/11 09:22	97,6010B	AI
Lead, Dissolved	ND	mg/l	0.010		1	01/07/11 09:45	01/13/11 09:22	97,6010B	AI
Nickel, Dissolved	ND	mg/l	0.025		1	01/07/11 09:45	01/13/11 09:22	97,6010B	AI
Selenium, Dissolved	ND	mg/l	0.010		1	01/07/11 09:45	01/13/11 09:22	97,6010B	AI
Silver, Dissolved	ND	mg/l	0.007		1	01/07/11 09:45	01/13/11 09:22	97,6010B	AI
Vanadium, Dissolved	ND	mg/l	0.010		1	01/07/11 09:45	01/13/11 09:22	97,6010B	AI
Zinc, Dissolved	ND	mg/l	0.050		1	01/07/11 09:45	01/13/11 09:22	97,6010B	AI

## **Prep Information**

Digestion Method: EPA 3005A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Dissolved Metals	- Westborough Lab for	sample(s	): 01	Batch:	WG450760	D-1			
Antimony, Dissolved	ND	mg/l	0.0005		1	01/07/11 12:20	01/10/11 19:20	97,6020A	ВМ
Thallium, Dissolved	ND	mg/l	0.0005		1	01/07/11 12:20	01/10/11 19:20	97,6020A	ВМ



Serial\_No:01131116:29

**Project Name:** FORMER ENERGY INTERNATIONAL **Lab Number:** L1100274

Method Blank Analysis Batch Quality Control

**Prep Information** 

Digestion Method: EPA 3005A



# Lab Control Sample Analysis Batch Quality Control

**Project Name:** FORMER ENERGY INTERNATIONAL

**Project Number:** 06318-502

Lab Number: L1100274

**Report Date:** 01/13/11

Parameter	LCS %Recovery C	LCSD lual %Recove	%Rec ry Qual Lim		Qual F	RPD Limits
MCP Dissolved Metals - Westborough Lab As	sociated sample(s): 0	1 Batch: WG4507	31-2 WG450731-3			
Mercury, Dissolved	99	103	80-1	20 4		20
MCP Dissolved Metals - Westborough Lab As	sociated sample(s): 0	1 Batch: WG4507	48-2 WG450748-3			
Arsenic, Dissolved	105	106	80-1	20 1		20
Barium, Dissolved	96	96	80-1	20 0		20
Beryllium, Dissolved	98	99	80-1	20 1		20
Cadmium, Dissolved	96	98	80-1	20 2		20
Chromium, Dissolved	95	95	80-1	20 0		20
Lead, Dissolved	101	102	80-1	20 1		20
Nickel, Dissolved	96	98	80-1	20 2		20
Selenium, Dissolved	108	110	80-1	20 2		20
Silver, Dissolved	98	100	80-1	20 2		20
Vanadium, Dissolved	98	98	80-1	20 0		20
Zinc, Dissolved	97	99	80-1	20 2		20
MCP Dissolved Metals - Westborough Lab As	sociated sample(s): 0	1 Batch: WG4507	60-2 WG450760-3			
Antimony, Dissolved	99	95	80-1	20 4		20
Thallium, Dissolved	94	93	80-1	20 1		20



## Matrix Spike Analysis Batch Quality Control

**Project Name:** FORMER ENERGY INTERNATIONAL

**Project Number:** 06318-502

Lab Number: L1100274

**Report Date:** 01/13/11

arameter	Native Sample	MS Added	MS Found %	MS %Recovery	MSD Qual Found	MSD %Recovery Q	Recove ual Limits	•	RPD Qual Limits
MCP Dissolved Metals	- Westborough Lab	Associated s	sample(s): 01	QC Batch	ID: WG450731-4	QC Sample: L11	00274-01	Client ID:	HA103(OW)
Mercury, Dissolved	ND	0.001	0.0010	105	-	-	75-125	-	20
MCP Dissolved Metals	- Westborough Lab	Associated s	sample(s): 01	QC Batch	ID: WG450748-6	QC Sample: L11	00274-01	Client ID:	HA103(OW)
Arsenic, Dissolved	ND	0.12	0.133	111	-	-	75-125	-	20
Barium, Dissolved	0.293	2	2.22	96	-	-	75-125	-	20
Beryllium, Dissolved	ND	0.05	0.049	98	-	-	75-125	-	20
Cadmium, Dissolved	ND	0.51	0.475	93	-	-	75-125	-	20
Chromium, Dissolved	ND	0.2	0.19	95	-	-	75-125	-	20
Lead, Dissolved	ND	0.51	0.468	92	-	-	75-125	-	20
Nickel, Dissolved	ND	0.5	0.450	90		-	75-125	-	20
Selenium, Dissolved	ND	0.12	0.131	109		-	75-125	-	20
Silver, Dissolved	ND	0.05	0.052	104	-	-	75-125	-	20
Vanadium, Dissolved	ND	0.5	0.496	99	-	-	75-125	-	20
Zinc, Dissolved	ND	0.5	0.495	99	-	-	75-125	-	20
MCP Dissolved Metals	- Westborough Lab	Associated s	sample(s): 01	QC Batch	ID: WG450760-4	QC Sample: L11	00274-01	Client ID:	HA103(OW)
Antimony, Dissolved	0.0020	0.5	0.4780	95	-	-	75-125	-	20
Thallium, Dissolved	ND	0.12	0.1054	88		-	75-125	-	20

Serial\_No:01131116:29

Lab Number: L1100274

Project Name: FORMER ENERGY INTERNATIONAL

Project Number: 06318-502 Report Date: 01/13/11

## **Sample Receipt and Container Information**

Were project specific reporting limits specified?

Reagent H2O Preserved Vials Frozen on: NA

**Cooler Information Custody Seal** 

Cooler

A Absent

Container Info	ormation		Temp				
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1100274-01A	Vial HCI preserved	Α	N/A	3	Υ	Absent	MCP-8260-10(14)
L1100274-01B	Vial HCl preserved	Α	N/A	3	Υ	Absent	MCP-8260-10(14)
L1100274-01C	Amber 1000ml HCl preserved	Α	<2	3	Υ	Absent	EPH-10(14)
L1100274-01D	Amber 1000ml HCl preserved	Α	<2	3	Υ	Absent	EPH-10(14)
L1100274-01E	Amber 1000ml unpreserved	Α	7	3	Υ	Absent	MCP-8082-10(365)
L1100274-01F	Amber 1000ml unpreserved	Α	7	3	Υ	Absent	MCP-8082-10(365)
L1100274-01G	Plastic 500ml HNO3 preserved	A	<2	3	Y	Absent	MCP-CD-6010S-10(180),MCP-7470S-10(28),MCP-AG-6010S-10(180),MCP-SB-6020S-10(180),MCP-ZN-6010S-10(180),MCP-AS-6010S-10(180),MCP-CR-6010S-10(180),MCP-TL-6020S-10(180),MCP-BA-6010S-10(180),MCP-BB-6010S-10(180),MCP-PB-6010S-10(180),MCP-NI-6010S-10(180),MCP-NI-6010S-10(180),MCP-NI-6010S-10(180),MCP-SE-6010S-10(180),MCP-SE-6010S-10(180),MCP-V-6010S-10(180)



Project Name:FORMER ENERGY INTERNATIONALLab Number:L1100274Project Number:06318-502Report Date:01/13/11

#### **GLOSSARY**

#### Acronyms

EPA - Environmental Protection Agency.

LCS Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD · Laboratory Control Sample Duplicate: Refer to LCS.

MDL • Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS • Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD · Matrix Spike Sample Duplicate: Refer to MS.

NA · Not Applicable.

NC • Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI · Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

#### **Terms**

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

#### Data Qualifiers

- A Spectra identified as "Aldol Condensation Product".
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- **E** Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference.
- P The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- **R** Analytical results are from sample re-analysis.

Report Format: Data Usability Report



Project Name:FORMER ENERGY INTERNATIONALLab Number:L1100274Project Number:06318-502Report Date:01/13/11

## Data Qualifiers

**RE** - Analytical results are from sample re-extraction.

**J** Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** • Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Project Name:FORMER ENERGY INTERNATIONALLab Number:L1100274Project Number:06318-502Report Date:01/13/11

#### REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.

## **LIMITATION OF LIABILITIES**

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## **Certificate/Approval Program Summary**

Last revised July 19, 2010 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

## Connecticut Department of Public Health Certificate/Lab ID: PH-0574. NELAP Accredited Solid Waste/Soil.

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

## Maine Department of Human Services Certificate/Lab ID: 2009024.

*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 300.0, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME DRO, ME GRO, MA EPH, MA VPH.)

Solid Waste/Soil (Organic Parameters: ME DRO, ME GRO, MA EPH, MA VPH.)

### Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.

Drinking Water

Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)

(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate)

353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B.

Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)

(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), 314.0, 332.

Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; MF-SM9222D

Non-Potable Water

Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)

(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Ti,Tl, V,Zn,Ca,Mg,Na,K)

245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B,

5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)

(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables, 600/4-81-045-PCB-Oil

## New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. NELAP Accredited.

Drinking Water (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 120.1, 300.0, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

## New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. NELAP Accredited.

*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, SM2120B, 2510B, 5310C, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

## New York Department of Health Certificate/Lab ID: 11148. NELAP Accredited.

*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, LACHAT 10-117-07-1A or B, SM4500Cl-E, 4500F-C, SM15 426C, EPA 350.1, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, S\M3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, SM4500-CN-E LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B, 9010B, 9030B.)

Solid & Hazardous Waste (Inorganic Parameters: 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID: 666. Organic Parameters: MA-EPH, MA-VPH.

Pennsylvania Department of Environmental Protection Certificate/Lab ID: 68-03671. *NELAP Accredited. Non-Potable Water* (Organic Parameters: EPA 3510C, 5030B, 625, 624. 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. NELAP Accredited via NY-DOH.

Refer to MA-DEP Certificate for Potable and Non-Potable Water.

Refer to NY-DOH Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** <u>Certificate/Lab ID</u>: T104704476-09-1. **NELAP Accredited.** *Non-Potable Water* (<u>Inorganic Parameters</u>: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540B, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2<sup>-</sup> D, 510C, 5210B, 5220D, 5310C, 5540C. <u>Organic Parameters</u>: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

## Department of Defense Certificate/Lab ID: L2217.

Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 9251, 9038, 350.1, 353.2, 351.1, 120.1, 9050A, 410.4, 9060, 1664, 420.1, LACHAT 10-107-06-1-B, SM 4500CN-E, 4500H-B, 4500CL-E, 4500F-BC, 4500SO4-E, 426C, 4500NH3-B, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500Norg-C, 4500PE, 2510B, 5540C, 5220D, 5310C, 2540B, 2540C, 2540D, 510C, 4500S2-AD, 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8330, 625, 8082, 8151A, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9040B, 9045C, 9065, 420.1, 9012A, 6860, 1311, 1312, 3050B, 9030B, 3051, 9010B, 3540C, SM 510ABC, 4500CN-CE, 2540G, SW-846 7.3, Organic Parameters: EPA 8260B, 8270C, 8330, 8082, 8081A, 8151A, 3545, 3546, 3580, 5035, MassDEP EPH, MassDEP VPH.)

### **Analytes Not Accredited by NELAP**

Certification is not available by NELAP for the following analytes: **EPA 8260B**: Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A**: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C**: Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625**: 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

orm 3003

WHITE - Laboratory

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AUGUST 2003

## 7A VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1100274

Instrument ID: Jack.i Calibration Date: 10-JAN-2011 Time: 08:14

Lab File ID: 0110A04 Init. Calib. Date(s): 21-NOV-2 21-NOV-2

Compound	RRF	RRF	MIN RRF	%D	MAX %D	
dichlorodifluoromethane	.62991 .75295	.57999	.1	=====   8   15	20 20 20	
chloromethane vinyl chloride bromomethane chloroethane	100	.27968 98.453	.1	8 2	20 20 20	
trichlorofluoromethaneethyl ether	.65249 .15724 .38996	.16566	.05	-5 -4	20 20 20 20 20	
carbon disulfide	.38864	.95542 .51494 .50249 .01334	.05 .1 .05	8 -32 17 -114	20 20	F F
methylene chloride acetone trans-1,2-dichloroethene	.64771 100 .66209	.62213 82.971 .62293	.05 .1 .1	17 6	20 20 20	_
methyl acetate methyl tert butyl ether Diisopropyl Ether tert butyl alcohol	.93223	.23062 .8526 1.2906 .03193	.1 .05 .05	9	20 20 20 20 20	F
1,1-dichloroethane halothane acrylonitrile	1.1648	1.0595  .31273  .09822	.05	9 21 29	20 20	F
Ethyl-Tert-Butyl-Ethervinyl acetatecis-1,2-dichloroethene	1.1019 .59474 .69628	1.0376 .55522 .66905	.05 .05 .1	6 7 4	20 20 20	
2,2-dichloropropane cyclohexane bromochloromethane	.99294	.77681 1.1807 .28112	.05 .01 .05	-15 -19 1	20 30 20	
chloroformcarbontetrachlorideethyl acetatetetrahydrofuran	.67929	1.0331 .7874 .23403	.2 .1 .05	5 -16 13 21	20 20 20 20 20	F
1,1,1-trichloroethane	.8383 .83584		.05	-4 4	20 20 20 20	Г
benzene	2.4877	2.3723	.05	5	20 20 20 20	

FORM VII MCP-8260-10

## 7A CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1100274

Instrument ID: Jack.i Calibration Date: 10-JAN-2011 Time: 08:14

Lab File ID: 0110A04 Init. Calib. Date(s): 21-NOV-2 21-NOV-2

Compound	DDF	DDE	MIN	9 D	MAX	
bromodichloromethane  1,4-dioxane cis-1,3-dichloropropene 2-chloroethylvinyl ether toluene tetrachloroethene 4-methyl-2-pentanone trans-1,3-dichloropropene 1,1,2-trichloroethane ethyl-methacrylate chlorodibromomethane 1,3-dichloropropane 1,2-dibromoethane 2-hexanone chlorobenzene ethyl benzene 1,1,1,2-tetrachloroethane	.94884 .60611 .28942 .61145 .74826 .00185 .74493 .19256 2.0165 .85833 .09211 .62596 .41174 .56067 .5237 .86161 .45829 .19053 2.1543 3.7465 .57339	.74984 .00206 .73405 .17794 1.8843 .92754 .08879 .71944 .37292 .46215 .55234 .79354 .44039 .16947 2.0437 3.7057 .64842	RRF ===== .01 .2 .05 .1 .2 .05 .2 .05 .4 .1 .1 .1 .01 .1 .05 .1 .5 .1 .05	-25 16 13 0 -12 1 8 7 -8 4 -15 9 18 -5 8 4 11 5 1 -13	%D ==== 30 20 20 20 20 20 20 20 20 20 20 20 20 20	F
p/m xylene_ o xylene_ bromoform_ styrene_ isopropylbenzene_ bromobenzene_ n-propylbenzene_ 1,4-dichloro-2-butane_ 1,1,2,2,-tetrachloroethane_ 1,3,5-trimethybenzene_ 4-ethytoluene_ 2-chlorotoluene_ 4-chorotoluene 1,2,3-trichloropropane_ trans-1,4-dichloro-2-butene_ tert-butylbenzene_ 1,2,4-trimethylbenzene_ 1,2,4-trimethylbenzene	1.3632 .47754 2.2452 3.5840 1.5869 7.5117 1.4093 .98109 5.7825 5.7686 5.0111 4.6273 .78023 .25315		.1 .3 .1 .05 .05 .01 .05 .05 .05 .05 .05		20 20 20 20 20 20 20 20 20 20 20 20	F

FORM VII MCP-8260-10

## 7A CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1100274

Instrument ID: Jack.i Calibration Date: 10-JAN-2011 Time: 08:14

Lab File ID: 0110A04 Init. Calib. Date(s): 21-NOV-2 21-NOV-2

Compound	RRF	RRF	MIN RRF	%D	MAX %D	
sec-butylbenzene p-isopropyltoluene 1,3-dichlorobenzene 1,4-dichlorobenzene p-diethylbenzene 1,2-dichlorobenzene 1,2,4,5-tetramethylbenezene 1,2-dibromo-3-chloropropane 1,3,5-trichlorobenzene 1,2,4-trichlorobenzene 1,2,3-trichlorobenzene 1,2,3-trichlorobenzene 1,2,3-trichlorobenzene 1,2-dichloroethane 1,2-dichloroethane 1,2-dichloroethane-d4 toluene-d8 4-bromofluorobenzene	3.0219 3.0831 2.6596 4.3730 2.7409 3.9525 .12789 1.8616 1.7005 .73224 2.9306 1.3936 ===== .26329 .25342	4.9545 2.9668 2.9752 2.5638 3.9529 2.6439 3.7916 .12807 1.9761 1.5745 .77127 2.2386 1.2688 ===== .25969	===== .05 .05 .05 .01 .05 .01 .05 .05 .05 .05 .05 .05	====== 6 1 2 3 4 10 4 4 0 -6 7 -5 24 9 ==== 1 8 3 7	==== 20 20 20 20 20 30 20 30 20 20 20 20 20 20 20 === 20 20 === == == == == == === =	न

FORM VII MCP-8260-10



12/22/10



## **Technical Report for**

**Haley & Aldrich** 

Former Energy International Parcel, MA

06318-502

Accutest Job Number: M96199

**Sampling Date: 11/29/10** 

## Report to:

**Haley & Aldrich** 

jkullmann@haleyaldrich.com

**ATTN: Jane Kullmann** 

Total number of pages in report: 161



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Reza Fand Lab Director

Client Service contact: Kristen Blanchard 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) ISO 17025:2005 (L2235) This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories. Test results relate only to samples analyzed.

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## **Sample Summary**

Haley & Aldrich

Job No:

M96199

Former Energy International Parcel, MA Project No: 06318-502

Sample Number	Collected Date	Time 1	Ву	Received	Matri Code		Client Sample ID
M96199-1	11/29/10	08:25 1	MG	11/29/10	SO	Soil	HA112_0-4'
M96199-1A	11/29/10	08:25 1	MG	11/29/10	SO	Soil	HA112_0-4'
M96199-2	11/29/10	09:00 1	MG	11/29/10	SO	Soil	HA112_4-8'
M96199-2A	11/29/10	09:00 1	MG	11/29/10	SO	Soil	HA112_4-8'
M96199-3	11/29/10	11:25 1	MG	11/29/10	SO	Soil	HA113_0-4'
M96199-3A	11/29/10	11:25 1	MG	11/29/10	SO	Soil	HA113_0-4'
M96199-4	11/29/10	12:50	MG	11/29/10	SO	Soil	HA113_12-15.5'
M96199-5	11/29/10	14:00 1	MG	11/29/10	SO	Soil	HA111_0-4'
M96199-5A	11/29/10	14:00	MG	11/29/10	SO	Soil	HA111_0-4'
M96199-5AD	11/29/10	14:00 1	MG	11/29/10	SO	Soil Dup/MSD	HA111_0-4'
M96199-5AS	11/29/10	14:00 1	MG	11/29/10	SO	Soil Matrix Spike	HA111_0-4'
M96199-5D	11/29/10	14:00 1	MG	11/29/10	SO	Soil Dup/MSD	HA111_0-4'
M96199-5S	11/29/10	14:00 1	MG	11/29/10	SO	Soil Matrix Spike	HA111_0-4'

Soil samples reported on a dry weight basis unless otherwise indicated on result page.





## Sample Summary (continued)

Haley & Aldrich

Job No: M96199

Former Energy International Parcel, MA Project No: 06318-502

Sample Collected				Matrix	Client	
Number	Date	Time By	Received	Code Type	Sample ID	
M96199-6	11/29/10	15:05 MG	11/29/10	SO Soil	HA111_8-12'	





## SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Haley & Aldrich Job No M96199

Site: Former Energy International Parcel, MA Report Date 12/22/2010 6:13:08 PM

6 Sample(s) were collected on 11/29/2010 and were received at Accutest on 11/29/2010 properly preserved, at 1.3 Deg. C and intact. These Samples received an Accutest job number of M96199. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

## Volatiles by GCMS By Method SW846 8260B

Matrix SO Batch ID: MSR660

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Continuing calibration check standard MSR660-CC638 for Tetrahydrofuran, 4-methyl-2-pentanone, 2-hexanone exceed 20% Difference. This check standard met MCP criteria.
- Initial calibration verification MSR638-ICV638 for acetone, isopropylbenzene exceed 30% Difference.
- The response factor (RF) for the 2-Butanone low point in the initial calibration MSR638-ICC638 is 0.028, less than the required RF of 0.1 as noted in Table 4 of SW846 8260C. 2-Butanone is a potential differicult compound.

Matrix SO Batch ID: MSR663

- All samples were analyzed within the recommended method holding time.
- Sample(s) M96199-5MS, M96199-5MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Blank Spike Recovery(s) for Hexachlorobutadiene, Isopropylbenzene are outside control limits. Blank Spike meets program technical requirements.
- Matrix Spike Recovery(s) for Vinyl chloride are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- Matrix Spike Duplicate Recovery(s) for 2-Hexanone, Acetone, Carbon tetrachloride, Hexachlorobutadiene, Isopropylbenzene are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- BSD Recovery(s) for Carbon tetrachloride, Dibromochloromethane, Tetrachloroethene, Hexachlorobutadiene, Isopropylbenzene are outside control limits. Blank Spike meets program technical requirements.
- Continuing calibration check standard MSR663-CC638 for chloromethane, trichlorofluoromethane, Tetrahydrofuran, carbon tetrachloride, dibromochloromethane, 1,1,1,2-tetrachloroethane, hexachlorobutadiene exceed 20% Difference. This check standard met MCP criteria.

## Extractables by GCMS By Method SW846 8270C

Matrix SO Batch ID: OP23515

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) M96225-8MS, M96225-8MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- BS, MS Recovery(s) for Benzoic acid, Hexachlorocyclopentadiene are outside control limits. Blank Spike meets program technical requirements.
- Matrix Spike Recovery(s) for Fluoranthene is outside control limits. Outside control limits due to high level in sample relative to spike amount.
- Matrix Spike Duplicate Recovery(s) for Hexachloroethane, 2-Methylnaphthalene, 3,3'-Dichlorobenzidine, Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Chrysene, Dibenzo(a,h)anthracene, Dibenzofuran, Fluorene, Indeno(1,2,3-cd)pyrene are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- RPD(s) for MSD for 2-Methylnaphthalene, 3,3'-Dichlorobenzidine, Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, bis(2-Ethylhexyl)phthalate, Chrysene, Dibenzo(a,h)anthracene, Dibenzofuran, Fluorene, Indeno(1,2,3-cd)pyrene, N-Nitrosodiphenylamine, Phenanthrene, Pyrene are outside control limits for sample OP23515-MSD. High RPD due to possible matrix interference and/or sample non-homogeneity.
- BSD, MSD Recovery(s) for Benzoic acid, 2,4-Dinitrophenol, Hexachlorocyclopentadiene are outside control limits. Blank Spike meets program technical requirements.
- OP23515-MSD for 2,4-Dinitrophenol: Outside control limits. Blank Spike meets program technical requirements.
- Initial calibration verification standard MSS806-ICV805 file S19551 for Aniline, 4-Chloroaniline, 3,3'-Dichlorobenzidine, Hexachlorocyclopentadiene exceeds 30% Difference
- Matrix Spike Recovery(s) for 3,3'-Dichlorobenzidine, Hexachloroethane, Naphthalene are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- RPD of OP23515-MSD for 2,4-Dinitrophenol: Outside control limits. Blank Spike meets program technical requirements.
- RPD of OP23515-MSD for Fluoranthene: Outside control limits due to high level in sample relative to spike amount.
- OContinuing calibration check standard MSS816-CC805 for bis(2-Ethylhexyl)phthalat, Di-n-octylphthalate exceed 20% Difference.
   This check standard met MCP criteria.
- MSD Recovery(s) for Fluoranthene, Phenanthrene, Pyrene is outside control limits. Outside control limits due to high level in sample relative to spike amount.

### Volatiles by GC By Method MADEP VPH REV 1.1

Matrix SO

Batch ID: GBH926

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Only Range requested.

### Extractables by GC By Method MADEP EPH REV 1.1

Matrix SO

Batch ID: OP23505

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) M96199-5MS, M96199-5MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Only range requested.
- M96199-1 for o-Terphenyl: Outside control limits due to possible matrix interference.
- OP23505-BS/BSD for C11-C22 Aromatics (Unadj.): Aromatic breakthrough (naphthalene and/or 2-methylnaphthalene) exceeded
   5% method limit. Results confirmed by refractionation.
- M96199-2, M96199-3 for 1-Chlorooctadecane: Outside control limits due to possible matrix interference. Confirmed by refractionation.



## Metals By Method SW846 6010C

Matrix LEACHATE

Batch ID: MP16354

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96199-5ADUP, M96199-5AMS, M96199-5ASDL, M96289-4ALS were used as the QC samples for metals.

Matrix SO

Batch ID: MP16325

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96199-5DUP, M96199-5MS, M96199-5PS, M96199-5SDL, M96199-5DUP were used as the QC samples for metals.
- Matrix Spike Recovery(s) for Antimony, Barium are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity. Post spike is not within acceptable range.
- Matrix Spike Recovery(s) for Lead are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- RPD(s) for Duplicate for Antimony, Barium are outside control limits for sample MP16325-D1. High RPD due to possible matrix interference and/or sample non-homogeneity.
- RPD(s) for Serial Dilution for Antimony, Selenium, Silver are outside control limits for sample MP16325-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- MP16325-SD1 for Chromium, Nickel, Zinc: Serial dilution indicates possible matrix interference.
- MP16325-D1 for Thallium: RPD acceptable due to low duplicate and sample concentrations.

## Metals By Method SW846 7471A

Matrix SO

Batch ID: MP16331

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96199-5DUP, M96199-5MS were used as the QC samples for metals.
- Matrix Spike Recovery(s) for Mercury are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
- RPD(s) for Duplicate for Mercury are outside control limits for sample MP16331-D1. High RPD due to possible matrix interference and/or sample non-homogeneity.

### Wet Chemistry By Method ASTM D1498-76M

Matrix SO

Batch ID: GN33623

- Sample(s) M96199-6DUP were used as the QC samples for Redox Potential Vs H2.
- GN33623-D1 for Redox Potential Vs H2: Analysis requested after recommended holding time.
- M96199-1 through M96199-6 for Redox Potential Vs H2: Analysis requested after recommended holding time.

#### Wet Chemistry By Method SM21 2540 B MOD.

Matrix SO

Batch ID: GN33576

Sample(s) M96199-5DUP were used as the QC samples for Solids, Percent.

## Wet Chemistry By Method SW846 1020

Matrix SO

Batch ID: GN33600

Sample(s) M96199-5DUP were used as the QC samples for Ignitability (Flashpoint).

## Wet Chemistry By Method SW846 9045

Matrix SO Batch ID: GN33588

Sample(s) M96199-5DUP were used as the QC samples for pH.

## Wet Chemistry By Method SW846 CHAP7

Matrix SO Batch ID: GN33584

Sample(s) M96199-5DUP were used as the QC samples for Corrosivity as pH.

Matrix SO Batch ID: GP12374

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96225-8DUP, M96225-8MS were used as the QC samples for Cyanide Reactivity.

Matrix SO Batch ID: GP12375

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96225-8DUP, M96225-8MS were used as the QC samples for Sulfide Reactivity.

Accutest may not have met all requested limits due to methodology limitations, sample matrix, dilutions, or percents solids.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety. The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report (M96199).



Sample Results	
D ( CA 1 :	
Report of Analysis	



Client Sample ID: HA112\_0-4' Lab Sample ID: M96199-1

 Matrix:
 SO - Soil

 Method:
 SW846 8260B

**Project:** Former Energy International Parcel, MA

Date Sampled: 11/29/10 Date Received: 11/29/10 Percent Solids: 91.9

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 R18541.D 1 12/02/10 GKn/a MSR660 n/aRun #2

Run #1 11.3 g 10.0 ml 100 ul
Run #2

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	260	ug/kg	
71-43-2	Benzene	ND	26	ug/kg	
108-86-1	Bromobenzene	ND	260	ug/kg	
74-97-5	Bromochloromethane	ND	260	ug/kg	
75-27-4	Bromodichloromethane	ND	110	ug/kg	
75-25-2	Bromoform	ND	110	ug/kg	
74-83-9	Bromomethane	ND	110	ug/kg	
78-93-3	2-Butanone (MEK)	ND	260	ug/kg	
104-51-8	n-Butylbenzene	ND	260	ug/kg	
135-98-8	sec-Butylbenzene	ND	260	ug/kg	
98-06-6	tert-Butylbenzene	ND	260	ug/kg	
75-15-0	Carbon disulfide	ND	260	ug/kg	
56-23-5	Carbon tetrachloride	ND	110	ug/kg	
108-90-7	Chlorobenzene	ND	110	ug/kg	
75-00-3	Chloroethane	ND	260	ug/kg	
67-66-3	Chloroform	ND	110	ug/kg	
74-87-3	Chloromethane	ND	260	ug/kg	
95-49-8	o-Chlorotoluene	ND	260	ug/kg	
106-43-4	p-Chlorotoluene	ND	260	ug/kg	
108-20-3	Di-Isopropyl ether	ND	110	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	260	ug/kg	
124-48-1	Dibromochloromethane	ND	110	ug/kg	
106-93-4	1,2-Dibromoethane	ND	110	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	110	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	110	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	110	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	110	ug/kg	
75-34-3	1,1-Dichloroethane	ND	110	ug/kg	
107-06-2	1,2-Dichloroethane	ND	110	ug/kg	
75-35-4	1,1-Dichloroethene	ND	110	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	110	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	110	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



Client Sample ID: HA112\_0-4' Lab Sample ID: M96199-1

 Lab Sample ID:
 M96199-1
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Method:
 SW846 8260B
 Percent Solids:
 91.9

**Project:** Former Energy International Parcel, MA

### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	110	ug/kg	
142-28-9	1,3-Dichloropropane	ND	260	ug/kg	
594-20-7	2,2-Dichloropropane	ND	260	ug/kg	
563-58-6	1,1-Dichloropropene	ND	260	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	110	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	110	ug/kg	
123-91-1	1,4-Dioxane	ND	1300	ug/kg	
60-29-7	Ethyl Ether	ND	260	ug/kg	
100-41-4	Ethylbenzene	ND	110	ug/kg	
87-68-3	Hexachlorobutadiene	ND	260	ug/kg	
591-78-6	2-Hexanone	ND	260	ug/kg	
98-82-8	Isopropylbenzene	ND	260	ug/kg	
99-87-6	p-Isopropyltoluene	ND	260	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	110	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	260	ug/kg	
74-95-3	Methylene bromide	ND	260	ug/kg	
75-09-2	Methylene chloride	ND	110	ug/kg	
91-20-3	Naphthalene	385	260	ug/kg	
103-65-1	n-Propylbenzene	ND	260	ug/kg	
100-42-5	Styrene	ND	260	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	260	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	110	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	260	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	110	ug/kg	
127-18-4	Tetrachloroethene	ND	110	ug/kg	
109-99-9	Tetrahydrofuran	ND	530	ug/kg	
108-88-3	Toluene	ND	260	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	260	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	260	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	110	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	110	ug/kg	
79-01-6	Trichloroethene	ND	110	ug/kg	
75-69-4	Trichlorofluoromethane	ND	110	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	260	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	260	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	260	ug/kg	
75-01-4	Vinyl chloride	ND	110	ug/kg	
	m,p-Xylene	ND	110	ug/kg	
95-47-6	o-Xylene	ND	110	ug/kg	
1330-20-7	Xylene (total)	ND	110	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Client Sample ID: HA112\_0-4'

 Lab Sample ID:
 M96199-1
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Method:
 SW846 8260B
 Percent Solids:
 91.9

**Project:** Former Energy International Parcel, MA

### **VOA MCP List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		70-130%
2037-26-5	Toluene-D8	104%		70-130%
460-00-4	4-Bromofluorobenzene	101%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Client Sample ID: HA112\_0-4'
Lab Sample ID: M96199-1
Matrix: SO - Soil

**Method:** SW846 8270C SW846 3545

**Project:** Former Energy International Parcel, MA

**Date Sampled:** 11/29/10 **Date Received:** 11/29/10

Percent Solids: 91.9

	File ID	DF	Analyzed	By	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	S19768.D	1	12/06/10	PR	12/03/10	OP23515	MSS816
Run #2	S19787.D	10	12/07/10	PR	12/03/10	OP23515	MSS818

	Initial Weight	Final Volume
Run #1	20.9 g	1.0 ml
Run #2	20.9 g	1.0 ml

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	634	520	ug/kg	
95-57-8	2-Chlorophenol	ND	260	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	520	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	520	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	520	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1000	ug/kg	
95-48-7	2-Methylphenol	ND	520	ug/kg	
	3&4-Methylphenol	ND	520	ug/kg	
88-75-5	2-Nitrophenol	ND	520	ug/kg	
100-02-7	4-Nitrophenol	ND	1000	ug/kg	
87-86-5	Pentachlorophenol	ND	520	ug/kg	
108-95-2	Phenol	ND	260	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	520	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	520	ug/kg	
83-32-9	Acenaphthene	705	260	ug/kg	
208-96-8	Acenaphthylene	1580	260	ug/kg	
98-86-2	Acetophenone	ND	520	ug/kg	
62-53-3	Aniline	ND	520	ug/kg	
120-12-7	Anthracene	3700	260	ug/kg	
56-55-3	Benzo(a)anthracene	9030	260	ug/kg	
50-32-8	Benzo(a)pyrene	6950	260	ug/kg	
205-99-2	Benzo(b)fluoranthene	7450	260	ug/kg	
191-24-2	Benzo(g,h,i)perylene	3870	260	ug/kg	
207-08-9	Benzo(k)fluoranthene	4280	260	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	260	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	260	ug/kg	
91-58-7	2-Chloronaphthalene	ND	260	ug/kg	
106-47-8	4-Chloroaniline	ND	520	ug/kg	
218-01-9	Chrysene	9170	260	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	260	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	260	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	260	ug/kg	

ND = Not detected RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



C

**Date Sampled:** 11/29/10

**Date Received:** 11/29/10

Percent Solids: 91.9

Client Sample ID: HA112\_0-4' Lab Sample ID: M96199-1

 Matrix:
 SO - Soil

 Method:
 SW846 8270C
 SW846 3545

**Project:** Former Energy International Parcel, MA

### **ABN MCP List**

CAS No.	Compound	Result	RL	Units Q
95-50-1	1,2-Dichlorobenzene	ND	260	ug/kg
122-66-7	1,2-Diphenylhydrazine	ND	260	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	260	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	260	ug/kg
121-14-2	2,4-Dinitrotoluene	ND	520	ug/kg
606-20-2	2,6-Dinitrotoluene	ND	520	ug/kg
91-94-1	3,3'-Dichlorobenzidine	ND	260	ug/kg
53-70-3	Dibenzo(a,h)anthracene	2260	260	ug/kg
132-64-9	Dibenzofuran	1150	260	ug/kg
84-74-2	Di-n-butyl phthalate	ND	260	ug/kg
117-84-0	Di-n-octyl phthalate	ND	260	ug/kg
84-66-2	Diethyl phthalate	ND	260	ug/kg
131-11-3	Dimethyl phthalate	ND	260	ug/kg
117-81-7	bis(2-Ethylhexyl)phthalate	ND	260	ug/kg
206-44-0	Fluoranthene	22000 a	2600	ug/kg
86-73-7	Fluorene	1190	260	ug/kg
118-74-1	Hexachlorobenzene	ND	260	ug/kg
87-68-3	Hexachlorobutadiene	ND	260	ug/kg
77-47-4	Hexachlorocyclopentadiene	ND	520	ug/kg
67-72-1	Hexachloroethane	ND	260	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	4260	260	ug/kg
78-59-1	Isophorone	ND	260	ug/kg
91-57-6	2-Methylnaphthalene	318	260	ug/kg
91-20-3	Naphthalene	628	260	ug/kg
98-95-3	Nitrobenzene	ND	260	ug/kg
621-64-7	N-Nitroso-di-n-propylamine	ND	260	ug/kg
86-30-6	N-Nitrosodiphenylamine	ND	260	ug/kg
85-01-8	Phenanthrene	18400 a	2600	ug/kg
129-00-0	Pyrene	19500 a	2600	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	260	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	66%	74%	30-130%
4165-62-2	Phenol-d5	67%	77%	30-130%
118-79-6	2,4,6-Tribromophenol	90%	82%	30-130%
4165-60-0	Nitrobenzene-d5	65%	72%	30-130%
321-60-8	2-Fluorobiphenyl	74%	88%	30-130%
1718-51-0	Terphenyl-d14	83%	110%	30-130%
	= *			

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



**Date Sampled:** 11/29/10

**Date Received:** 11/29/10

Percent Solids: 91.9

Client Sample ID: HA112\_0-4' Lab Sample ID: M96199-1 Matrix: SO - Soil

Method: SW846 8270C SW846 3545

**Project:** Former Energy International Parcel, MA

#### **ABN MCP List**

Compound CAS No. Result RLUnits Q

(a) Result is from Run# 2

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



### Page 1 of 1

# **Report of Analysis**

**Date Sampled:** 11/29/10

**Date Received:** 11/29/10

**Percent Solids:** 91.9

Client Sample ID: HA112\_0-4' Lab Sample ID: M96199-1

Matrix: SO - Soil Method: MADEP VPH REV 1.1

**Project:** Former Energy International Parcel, MA

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch GBH926** Run #1 BH17786.D 1 12/06/10 AP n/an/a

Run #2

**Final Volume Methanol Aliquot Initial Weight** Run #1 11.3 g 11.0 ml 100 ul

Run #2

### **Volatile TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C5- C8 Aliphatics (Unadj.) C9- C12 Aliphatics (Unadj.) C9- C10 Aromatics (Unadj.)	ND ND ND	5800 5800 5800	ug/kg ug/kg ug/kg	
	C5- C8 Aliphatics C9- C12 Aliphatics	ND ND	5800 5800	ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	ts
615-59-8 615-59-8	2,5-Dibromotoluene 2,5-Dibromotoluene	108% 101%		70-13 70-13	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



Client Sample ID: HA112\_0-4'
Lab Sample ID: M96199-1

Matrix: SO - Soil
Method: MADEP EPH REV 1.1 SW846 3550B

**Project:** Former Energy International Parcel, MA

**Date Sampled:** 11/29/10 **Date Received:** 11/29/10

Percent Solids: 91.9

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	<b>Analytical Batch</b>
Run #1	BJ71.D	1	12/04/10	KD	12/02/10	OP23505	GBJ2
D. #2							

Run #2

Initial Weight Final Volume
Run #1 11.2 g 2.0 ml

Run #2

### **Extractable TPHC Ranges**

CAS No.	Compound	Result	RL	Units Q
	C11-C22 Aromatics (Unadj.) C9-C18 Aliphatics C19-C36 Aliphatics C11-C22 Aromatics	495000 12100 58200 325000	19000 9700 9700 19000	ug/kg ug/kg ug/kg ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1 321-60-8 580-13-2	o-Terphenyl 2-Fluorobiphenyl 2-Bromonaphthalene	181% <sup>a</sup> 89% 87%		40-140% 40-140% 40-140%
3386-33-2	1-Chlorooctadecane	61%		40-140%

(a) Outside control limits due to possible matrix interference.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



 Client Sample ID:
 HA112\_0-4'

 Lab Sample ID:
 M96199-1
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Percent Solids:
 91.9

**Project:** Former Energy International Parcel, MA

### **Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	< 0.81	0.81	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Arsenic	6.9	0.81	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Barium	71.4	4.1	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Beryllium	0.45	0.32	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Cadmium	0.66	0.32	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Chromium	8.9	0.81	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Lead	722	0.81	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Mercury	0.69	0.032	mg/kg	1	12/03/10	12/03/10 PY	SW846 7471A <sup>1</sup>	SW846 7471A <sup>4</sup>
Nickel	9.7	3.2	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Selenium	< 0.81	0.81	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Silver	< 0.41	0.41	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Thallium	< 0.81	0.81	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Vanadium	17.0	0.81	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Zinc	172	1.6	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>

(1) Instrument QC Batch: MA12492(2) Instrument QC Batch: MA12497(3) Prep QC Batch: MP16325(4) Prep QC Batch: MP16331

Client Sample ID: HA112\_0-4'
Lab Sample ID: M96199-1
Matrix: SO - Soil

**Date Sampled:** 11/29/10 **Date Received:** 11/29/10 **Percent Solids:** 91.9

**Project:** Former Energy International Parcel, MA

### **General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	6.9			1	11/30/10	MA	SW846 CHAP7
Cyanide Reactivity	< 1.6	1.6	mg/kg	1	12/06/10	BF	SW846 CHAP7
Ignitability (Flashpoint)	> 230		Deg. F	1	12/02/10	BF	SW846 1020
Redox Potential Vs H2 <sup>a</sup>	380		mv	1	12/03/10	MC	ASTM D1498-76M
Solids, Percent	91.9		%	1	12/01/10	HS	SM21 2540 B MOD.
Sulfide Reactivity	< 54	54	mg/kg	1	12/06/10	BF	SW846 CHAP7
рН	6.9		su	1	11/30/10	MA	SW846 9045

(a) Analysis requested after recommended holding time.

Page 1 of 1

Client Sample ID: HA112\_0-4'

 Lab Sample ID:
 M96199-1A
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Percent Solids:
 91.9

**Project:** Former Energy International Parcel, MA

### Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	<b>Prep Method</b>
Lead	1.8	D008	5.0	0.010	mg/l	1	12/09/10	12/09/10 DA	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA12508

(2) Prep QC Batch: MP16354

RL = Reporting Limit

MCL = Maximum Contamination Level (40 CFR 261 6/96)



C

Client Sample ID: HA112\_4-8' Lab Sample ID: M96199-2

Matrix: SO - Soil Method: SW846 8260B

**Project:** Former Energy International Parcel, MA

**Date Sampled:** 11/29/10 **Date Received:** 11/29/10

Percent Solids: 82.7

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 R18542.D 1 12/02/10 GKMSR660 n/an/aRun #2

**Final Volume Methanol Aliquot Initial Weight** Run #1 10.0 ml 100 ul 9.55 g

Run #2

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	370	ug/kg	
71-43-2	Benzene	ND	37	ug/kg	
108-86-1	Bromobenzene	ND	370	ug/kg	
74-97-5	Bromochloromethane	ND	370	ug/kg	
75-27-4	Bromodichloromethane	ND	150	ug/kg	
75-25-2	Bromoform	ND	150	ug/kg	
74-83-9	Bromomethane	ND	150	ug/kg	
78-93-3	2-Butanone (MEK)	ND	370	ug/kg	
104-51-8	n-Butylbenzene	ND	370	ug/kg	
135-98-8	sec-Butylbenzene	ND	370	ug/kg	
98-06-6	tert-Butylbenzene	ND	370	ug/kg	
75-15-0	Carbon disulfide	ND	370	ug/kg	
56-23-5	Carbon tetrachloride	ND	150	ug/kg	
108-90-7	Chlorobenzene	ND	150	ug/kg	
75-00-3	Chloroethane	ND	370	ug/kg	
67-66-3	Chloroform	ND	150	ug/kg	
74-87-3	Chloromethane	ND	370	ug/kg	
95-49-8	o-Chlorotoluene	ND	370	ug/kg	
106-43-4	p-Chlorotoluene	ND	370	ug/kg	
108-20-3	Di-Isopropyl ether	ND	150	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	370	ug/kg	
124-48-1	Dibromochloromethane	ND	150	ug/kg	
106-93-4	1,2-Dibromoethane	ND	150	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	150	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	150	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	150	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	150	ug/kg	
75-34-3	1,1-Dichloroethane	ND	150	ug/kg	
107-06-2	1,2-Dichloroethane	ND	150	ug/kg	
75-35-4	1,1-Dichloroethene	ND	150	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	150	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	150	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



 Client Sample ID:
 HA112\_4-8'

 Lab Sample ID:
 M96199-2
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Method:
 SW846 8260B
 Percent Solids:
 82.7

**Project:** Former Energy International Parcel, MA

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	150	ug/kg	
142-28-9	1,3-Dichloropropane	ND	370	ug/kg	
594-20-7	2,2-Dichloropropane	ND	370	ug/kg	
563-58-6	1,1-Dichloropropene	ND	370	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	150	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	150	ug/kg	
123-91-1	1,4-Dioxane	ND	1800	ug/kg	
60-29-7	Ethyl Ether	ND	370	ug/kg	
100-41-4	Ethylbenzene	ND	150	ug/kg	
87-68-3	Hexachlorobutadiene	ND	370	ug/kg	
591-78-6	2-Hexanone	ND	370	ug/kg	
98-82-8	Isopropylbenzene	ND	370	ug/kg	
99-87-6	p-Isopropyltoluene	ND	370	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	150	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)		370	ug/kg	
74-95-3	Methylene bromide	ND	370	ug/kg	
75-09-2	Methylene chloride	ND	150	ug/kg	
91-20-3	Naphthalene	ND	370	ug/kg	
103-65-1	n-Propylbenzene	ND	370	ug/kg	
100-42-5	Styrene	ND	370	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	370	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	150	ug/kg	
630-20-6	1, 1, 1, 2-Tetrachloroethane	ND	370	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	150	ug/kg	
127-18-4	Tetrachloroethene	ND	150	ug/kg	
109-99-9	Tetrahydrofuran	ND	740	ug/kg	
108-88-3	Toluene	ND	370	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	370	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	370	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	150	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	150	ug/kg	
79-01-6	Trichloroethene	ND	150	ug/kg	
75-69-4	Trichlorofluoromethane	ND	150	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	370	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	370	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	370	ug/kg	
75-01-4	Vinyl chloride	ND	150	ug/kg	
	m,p-Xylene	ND	150	ug/kg	
95-47-6	o-Xylene	ND	150	ug/kg	
1330-20-7	Xylene (total)	ND	150	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

 $N = \ Indicates \ presumptive \ evidence \ of \ a \ compound$ 



Page 3 of 3

Client Sample ID: HA112\_4-8'

Lab Sample ID: M96199-2 **Date Sampled:** 11/29/10 Matrix: SO - Soil **Date Received:** 11/29/10 Method: SW846 8260B **Percent Solids:** 82.7

Former Energy International Parcel, MA **Project:** 

#### **VOA MCP List**

CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		70-130%
2037-26-5	Toluene-D8	113%		70-130%
460-00-4	4-Bromofluorobenzene	111%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$ 

N = Indicates presumptive evidence of a compound



Client Sample ID: HA112\_4-8'
Lab Sample ID: M96199-2
Matrix: SO - Soil

**Method:** SW846 8270C SW846 3545

**Project:** Former Energy International Parcel, MA

1.0 ml

Date Sampled: 11/29/10 Date Received: 11/29/10 Percent Solids: 82.7

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 S19769.D 1 12/06/10 PR 12/03/10 OP23515 MSS816 Run #2

Initial Weight Final Volume

20.5 g

Run #1 Run #2

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	771	590	ug/kg	
95-57-8	2-Chlorophenol	ND	290	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	590	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	590	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	590	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	ug/kg	
95-48-7	2-Methylphenol	ND	590	ug/kg	
	3&4-Methylphenol	ND	590	ug/kg	
88-75-5	2-Nitrophenol	ND	590	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	ug/kg	
87-86-5	Pentachlorophenol	ND	590	ug/kg	
108-95-2	Phenol	ND	290	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	590	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	590	ug/kg	
83-32-9	Acenaphthene	829	290	ug/kg	
208-96-8	Acenaphthylene	724	290	ug/kg	
98-86-2	Acetophenone	ND	590	ug/kg	
62-53-3	Aniline	ND	590	ug/kg	
120-12-7	Anthracene	2610	290	ug/kg	
56-55-3	Benzo(a)anthracene	4970	290	ug/kg	
50-32-8	Benzo(a)pyrene	3930	290	ug/kg	
205-99-2	Benzo(b)fluoranthene	3690	290	ug/kg	
191-24-2	Benzo(g,h,i)perylene	2000	290	ug/kg	
207-08-9	Benzo(k)fluoranthene	3210	290	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	290	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	290	ug/kg	
91-58-7	2-Chloronaphthalene	ND	290	ug/kg	
106-47-8	4-Chloroaniline	ND	590	ug/kg	
218-01-9	Chrysene	5140	290	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	290	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	290	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	290	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



**Date Sampled:** 11/29/10

Client Sample ID: HA112\_4-8' Lab Sample ID: M96199-2

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Method:
 SW846 8270C
 SW846 3545
 Percent Solids:
 82.7

**Project:** Former Energy International Parcel, MA

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units Q
95-50-1	1,2-Dichlorobenzene	ND	290	ug/kg
122-66-7	1,2-Diphenylhydrazine	ND	290	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	290	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	290	ug/kg
121-14-2	2,4-Dinitrotoluene	ND	590	ug/kg
606-20-2	2,6-Dinitrotoluene	ND	590	ug/kg
91-94-1	3,3'-Dichlorobenzidine	ND	290	ug/kg
53-70-3	Dibenzo(a,h)anthracene	1120	290	ug/kg
132-64-9	Dibenzofuran	986	290	ug/kg
84-74-2	Di-n-butyl phthalate	ND	290	ug/kg
117-84-0	Di-n-octyl phthalate	ND	290	ug/kg
84-66-2	Diethyl phthalate	ND	290	ug/kg
131-11-3	Dimethyl phthalate	ND	290	ug/kg
117-81-7	bis(2-Ethylhexyl)phthalate	ND	290	ug/kg
206-44-0	Fluoranthene	8940	290	ug/kg
86-73-7	Fluorene	1240	290	ug/kg
118-74-1	Hexachlorobenzene	ND	290	ug/kg
87-68-3	Hexachlorobutadiene	ND	290	ug/kg
77-47-4	Hexachlorocyclopentadiene	ND	590	ug/kg
67-72-1	Hexachloroethane	ND	290	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	2140	290	ug/kg
78-59-1	Isophorone	ND	290	ug/kg
91-57-6	2-Methylnaphthalene	501	290	ug/kg
91-20-3	Naphthalene	954	290	ug/kg
98-95-3	Nitrobenzene	ND	290	ug/kg
621-64-7	N-Nitroso-di-n-propylamine	ND	290	ug/kg
86-30-6	N-Nitrosodiphenylamine	ND	290	ug/kg
85-01-8	Phenanthrene	7940	290	ug/kg
129-00-0	Pyrene	7230	290	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	290	ug/kg
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	62%		30-130%
4165-62-2	Phenol-d5	63%		30-130%
118-79-6	2,4,6-Tribromophenol	82%		30-130%
4165-60-0	Nitrobenzene-d5	56%		30-130%
321-60-8	2-Fluorobiphenyl	68%		30-130%
1718-51-0	Terphenyl-d14	69%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound



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### Page 1 of 1

# **Report of Analysis**

Client Sample ID: HA112\_4-8' Lab Sample ID: M96199-2

Matrix: SO - Soil
Method: MADEP VPH REV 1.1

**Project:** Former Energy International Parcel, MA

**Date Sampled:** 11/29/10 **Date Received:** 11/29/10 **Paragent Solids:** 82.7

**Percent Solids:** 82.7

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BH17787.D 1 12/06/10 AP n/a n/a GBH926

Run #2

Initial Weight Final Volume Methanol Aliquot

Run #1 9.55 g 11.0 ml 100 ul

Run #2

### **Volatile TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C5- C8 Aliphatics (Unadj.) C9- C12 Aliphatics (Unadj.) C9- C10 Aromatics (Unadj.) C5- C8 Aliphatics C9- C12 Aliphatics	10300 ND ND 10300 ND	8000 8000 8000 8000 8000	ug/kg ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	ts
615-59-8 615-59-8	2,5-Dibromotoluene 2,5-Dibromotoluene	100% 93%		70-13 70-13	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



### Page 1 of 1

# **Report of Analysis**

Client Sample ID: HA112\_4-8' Lab Sample ID: M96199-2

Matrix: SO - Soil Method: MADEP EPH REV 1.1 SW846 3550B

**Project:** Former Energy International Parcel, MA **Date Sampled:** 11/29/10 **Date Received:** 11/29/10

Percent Solids: 82.7

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	<b>Analytical Batch</b>
Run #1	BG23601.D	1	12/08/10	AL	12/02/10	OP23505	GBG777
Run #2							

**Final Volume Initial Weight** Run #1 11.8 g 2.0 ml Run #2

### **Extractable TPHC Ranges**

CAS No.	Compound	Result	RL	Units (	Q
	C11-C22 Aromatics (Unadj.) C9-C18 Aliphatics C19-C36 Aliphatics C11-C22 Aromatics	94700 31100 77700 74100	21000 10000 10000 21000	ug/kg ug/kg ug/kg ug/kg	
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits	
84-15-1 321-60-8 580-13-2 3386-33-2	o-Terphenyl 2-Fluorobiphenyl 2-Bromonaphthalene 1-Chlorooctadecane	78% 91% 92% 17% <sup>a</sup>		40-140 40-140 40-140 40-140	% %

(a) Outside control limits due to possible matrix interference. Confirmed by refractionation.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



 Client Sample ID:
 HA112\_4-8'

 Lab Sample ID:
 M96199-2
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Percent Solids:
 82.7

**Project:** Former Energy International Parcel, MA

### **Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	< 0.87	0.87	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Arsenic	12.4	0.87	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Barium	109	4.3	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Beryllium	0.50	0.35	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Cadmium	0.78	0.35	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Chromium	17.3	0.87	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Lead	335	0.87	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Mercury	0.98	0.037	mg/kg	1	12/03/10	12/03/10 PY	SW846 7471A <sup>1</sup>	SW846 7471A <sup>4</sup>
Nickel	17.1	3.5	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Selenium	2.0	0.87	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Silver	< 0.43	0.43	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Thallium	< 0.87	0.87	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Vanadium	26.9	0.87	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Zinc	682	1.7	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>

(1) Instrument QC Batch: MA12492(2) Instrument QC Batch: MA12497(3) Prep QC Batch: MP16325(4) Prep QC Batch: MP16331

### Page 1 of 1

# Report of Analysis

Client Sample ID: HA112\_4-8'
Lab Sample ID: M96199-2
Matrix: SO - Soil

Date Sampled: 11/29/10Date Received: 11/29/10Percent Solids: 82.7

**Project:** Former Energy International Parcel, MA

### **General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	7.4			1	11/30/10	MA	SW846 CHAP7
Cyanide Reactivity	< 1.8	1.8	mg/kg	1	12/06/10	BF	SW846 CHAP7
Ignitability (Flashpoint)	> 230		Deg. F	1	12/02/10	BF	SW846 1020
Redox Potential Vs H2 <sup>a</sup>	384		mv	1	12/03/10	MC	ASTM D1498-76M
Solids, Percent	82.7		%	1	12/01/10	HS	SM21 2540 B MOD.
Sulfide Reactivity	< 60	60	mg/kg	1	12/06/10	BF	SW846 CHAP7
pН	7.4		su	1	11/30/10	MA	SW846 9045

(a) Analysis requested after recommended holding time.

Page 1 of 1

Client Sample ID: HA112\_4-8'

 Lab Sample ID:
 M96199-2A
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Percent Solids:
 82.7

**Project:** Former Energy International Parcel, MA

### Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	<b>Prep Method</b>
Lead	0.56	D008	5.0	0.010	mg/l	1	12/09/10	12/09/10 DA	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA12508

(2) Prep QC Batch: MP16354

RL = Reporting Limit

MCL = Maximum Contamination Level (40 CFR 261 6/96)



**Date Sampled:** 11/29/10

Client Sample ID: HA113\_0-4'

Lab Sample ID: M96199-3 Matrix: SO - Soil Method: SW846 8260B

**Date Received:** 11/29/10 Percent Solids: 83.5

**Project:** Former Energy International Parcel, MA

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 R18543.D 1 12/02/10 GKMSR660 n/an/a

Run #2

**Final Volume Methanol Aliquot Initial Weight** 

Run #1 10.0 ml 100 ul 10.0 g

Run #2

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	350	ug/kg	
71-43-2	Benzene	ND	35	ug/kg	
108-86-1	Bromobenzene	ND	350	ug/kg	
74-97-5	Bromochloromethane	ND	350	ug/kg	
75-27-4	Bromodichloromethane	ND	140	ug/kg	
75-25-2	Bromoform	ND	140	ug/kg	
74-83-9	Bromomethane	ND	140	ug/kg	
78-93-3	2-Butanone (MEK)	ND	350	ug/kg	
104-51-8	n-Butylbenzene	ND	350	ug/kg	
135-98-8	sec-Butylbenzene	ND	350	ug/kg	
98-06-6	tert-Butylbenzene	ND	350	ug/kg	
75-15-0	Carbon disulfide	ND	350	ug/kg	
56-23-5	Carbon tetrachloride	ND	140	ug/kg	
108-90-7	Chlorobenzene	ND	140	ug/kg	
75-00-3	Chloroethane	ND	350	ug/kg	
67-66-3	Chloroform	ND	140	ug/kg	
74-87-3	Chloromethane	ND	350	ug/kg	
95-49-8	o-Chlorotoluene	ND	350	ug/kg	
106-43-4	p-Chlorotoluene	ND	350	ug/kg	
108-20-3	Di-Isopropyl ether	ND	140	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	350	ug/kg	
124-48-1	Dibromochloromethane	ND	140	ug/kg	
106-93-4	1,2-Dibromoethane	ND	140	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	140	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	140	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	140	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	140	ug/kg	
75-34-3	1,1-Dichloroethane	ND	140	ug/kg	
107-06-2	1,2-Dichloroethane	ND	140	ug/kg	
75-35-4	1,1-Dichloroethene	ND	140	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	140	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	140	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



 Client Sample ID:
 HA113\_0-4'

 Lab Sample ID:
 M96199-3
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Method:
 SW846 8260B
 Percent Solids:
 83.5

**Project:** Former Energy International Parcel, MA

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	140	ug/kg	
142-28-9	1,3-Dichloropropane	ND	350	ug/kg	
594-20-7	2,2-Dichloropropane	ND	350	ug/kg	
563-58-6	1,1-Dichloropropene	ND	350	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	140	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	140	ug/kg	
123-91-1	1,4-Dioxane	ND	1700	ug/kg	
60-29-7	Ethyl Ether	ND	350	ug/kg	
100-41-4	Ethylbenzene	ND	140	ug/kg	
87-68-3	Hexachlorobutadiene	ND	350	ug/kg	
591-78-6	2-Hexanone	ND	350	ug/kg	
98-82-8	Isopropylbenzene	ND	350	ug/kg	
99-87-6	p-Isopropyltoluene	ND	350	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	140	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	350	ug/kg	
74-95-3	Methylene bromide	ND	350	ug/kg	
75-09-2	Methylene chloride	ND	140	ug/kg	
91-20-3	Naphthalene	ND	350	ug/kg	
103-65-1	n-Propylbenzene	ND	350	ug/kg	
100-42-5	Styrene	ND	350	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	350	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	140	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	350	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	140	ug/kg	
127-18-4	Tetrachloroethene	ND	140	ug/kg	
109-99-9	Tetrahydrofuran	ND	700	ug/kg	
108-88-3	Toluene	ND	350	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	350	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	350	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	140	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	140	ug/kg	
79-01-6	Trichloroethene	ND	140	ug/kg	
75-69-4	Trichlorofluoromethane	ND	140	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	350	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	350	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	350	ug/kg	
75-01-4	Vinyl chloride	ND	140	ug/kg	
	m,p-Xylene	ND	140	ug/kg	
95-47-6	o-Xylene	ND	140	ug/kg	
1330-20-7	Xylene (total)	ND	140	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



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# **Report of Analysis**

Client Sample ID: HA113\_0-4' Lab Sample ID: M96199-3 **Date Sampled:** 11/29/10 Matrix: SO - Soil **Date Received:** 11/29/10 Method: SW846 8260B **Percent Solids:** 83.5

Former Energy International Parcel, MA **Project:** 

#### **VOA MCP List**

CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		70-130%
2037-26-5	Toluene-D8	111%		70-130%
460-00-4	4-Bromofluorobenzene	108%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$ 

N = Indicates presumptive evidence of a compound



Client Sample ID: HA113\_0-4' Lab Sample ID: M96199-3

Matrix: SO - Soil Method: SW846 8270C SW846 3545

**Project:** Former Energy International Parcel, MA **Date Sampled:** 11/29/10 **Date Received:** 11/29/10 Percent Solids: 83.5

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 S19770.D 1 12/06/10 PR 12/03/10 OP23515 MSS816

Run #2

**Final Volume Initial Weight** 

Run #1 1.0 ml 20.8 g

Run #2

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	580	ug/kg	
95-57-8	2-Chlorophenol	ND	290	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	580	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	580	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	580	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	ug/kg	
95-48-7	2-Methylphenol	ND	580	ug/kg	
	3&4-Methylphenol	ND	580	ug/kg	
88-75-5	2-Nitrophenol	ND	580	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	ug/kg	
87-86-5	Pentachlorophenol	ND	580	ug/kg	
108-95-2	Phenol	ND	290	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	580	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	580	ug/kg	
83-32-9	Acenaphthene	654	290	ug/kg	
208-96-8	Acenaphthylene	588	290	ug/kg	
98-86-2	Acetophenone	ND	580	ug/kg	
62-53-3	Aniline	ND	580	ug/kg	
120-12-7	Anthracene	1860	290	ug/kg	
56-55-3	Benzo(a)anthracene	3810	290	ug/kg	
50-32-8	Benzo(a)pyrene	3060	290	ug/kg	
205-99-2	Benzo(b)fluoranthene	3230	290	ug/kg	
191-24-2	Benzo(g,h,i)perylene	1560	290	ug/kg	
207-08-9	Benzo(k)fluoranthene	2650	290	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	290	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	290	ug/kg	
91-58-7	2-Chloronaphthalene	ND	290	ug/kg	
106-47-8	4-Chloroaniline	ND	580	ug/kg	
218-01-9	Chrysene	4280	290	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	290	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	290	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	290	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



Client Sample ID: HA113\_0-4' Lab Sample ID: M96199-3

 Matrix:
 SO - Soil

 Method:
 SW846 8270C
 SW846 3545

**Project:** Former Energy International Parcel, MA

### Date Sampled: 11/29/10 Date Received: 11/29/10 Percent Solids: 83.5

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units Q
95-50-1	1,2-Dichlorobenzene	ND	290	ug/kg
122-66-7	1,2-Diphenylhydrazine	ND	290	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	290	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	290	ug/kg
121-14-2	2,4-Dinitrotoluene	ND	580	ug/kg
606-20-2	2,6-Dinitrotoluene	ND	580	ug/kg
91-94-1	3,3'-Dichlorobenzidine	ND	290	ug/kg
53-70-3	Dibenzo(a,h)anthracene	664	290	ug/kg
132-64-9	Dibenzofuran	685	290	ug/kg
84-74-2	Di-n-butyl phthalate	ND	290	ug/kg
117-84-0	Di-n-octyl phthalate	ND	290	ug/kg
84-66-2	Diethyl phthalate	ND	290	ug/kg
131-11-3	Dimethyl phthalate	ND	290	ug/kg
117-81-7	bis(2-Ethylhexyl)phthalate	ND	290	ug/kg
206-44-0	Fluoranthene	7520	290	ug/kg
86-73-7	Fluorene	804	290	ug/kg
118-74-1	Hexachlorobenzene	ND	290	ug/kg
87-68-3	Hexachlorobutadiene	ND	290	ug/kg
77-47-4	Hexachlorocyclopentadiene	ND	580	ug/kg
67-72-1	Hexachloroethane	ND	290	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	1750	290	ug/kg
78-59-1	Isophorone	ND	290	ug/kg
91-57-6	2-Methylnaphthalene	346	290	ug/kg
91-20-3	Naphthalene	581	290	ug/kg
98-95-3	Nitrobenzene	ND	290	ug/kg
621-64-7	N-Nitroso-di-n-propylamine	ND	290	ug/kg
86-30-6	N-Nitrosodiphenylamine	ND	290	ug/kg
85-01-8	Phenanthrene	6490	290	ug/kg
129-00-0	Pyrene	5480	290	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	290	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	56%		30-130%
4165-62-2	Phenol-d5	57%		30-130%
118-79-6	2,4,6-Tribromophenol	79%		30-130%
4165-60-0	Nitrobenzene-d5	57%		30-130%
321-60-8	2-Fluorobiphenyl	64%		30-130%
1718-51-0	Terphenyl-d14	65%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound



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### Page 1 of 1

# **Report of Analysis**

Client Sample ID: HA113\_0-4'
Lab Sample ID: M96199-3
Matrix: SO - Soil

**Method:** MADEP VPH REV 1.1

**Project:** Former Energy International Parcel, MA

**Date Sampled:** 11/29/10 **Date Received:** 11/29/10

Percent Solids: 83.5

File ID DF **Prep Batch Analytical Batch** Analyzed By **Prep Date GBH926** Run #1 BH17788.D 1 12/06/10 AP n/an/a Run #2

Initial Weight Final Volume Methanol Aliquot
Run #1 10.0 g 11.0 ml 100 ul
Run #2

### **Volatile TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C5- C8 Aliphatics (Unadj.) C9- C12 Aliphatics (Unadj.) C9- C10 Aromatics (Unadj.) C5- C8 Aliphatics C9- C12 Aliphatics	ND ND ND ND ND	7600 7600 7600 7600 7600	ug/kg ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its
615-59-8 615-59-8	2,5-Dibromotoluene 2,5-Dibromotoluene	103% 96%		70-1 70-1	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



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### Page 1 of 1

### **Report of Analysis**

Client Sample ID: HA113\_0-4' Lab Sample ID: M96199-3

Lab Sample ID:M96199-3Date Sampled:11/29/10Matrix:SO - SoilDate Received:11/29/10Method:MADEP EPH REV 1.1 SW846 3550BPercent Solids:83.5

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BG23602.D 1 12/08/10 AL 12/02/10 OP23505 GBG777

Run #2

Initial Weight Final Volume

Run #1 11.4 g 2.0 ml

Run #2

### **Extractable TPHC Ranges**

CAS No.	Compound	Result	RL	Units Q
	C11-C22 Aromatics (Unadj.) C9-C18 Aliphatics C19-C36 Aliphatics C11-C22 Aromatics	168000 102000 281000 157000	21000 10000 10000 21000	ug/kg ug/kg ug/kg ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	63%		40-140%
321-60-8	2-Fluorobiphenyl	97%		40-140%
580-13-2	2-Bromonaphthalene	80%		40-140%
3386-33-2	1-Chlorooctadecane	26% a		40-140%

(a) Outside control limits due to possible matrix interference. Confirmed by refractionation.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



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 Client Sample ID:
 HA113\_0-4'

 Lab Sample ID:
 M96199-3
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Percent Solids:
 83.5

**Project:** Former Energy International Parcel, MA

### **Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	<b>Prep Method</b>
Antimony	1.6	0.90	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Arsenic	8.5	0.90	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Barium	91.3	4.5	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Beryllium	0.45	0.36	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Cadmium	3.3	0.36	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Chromium	18.8	0.90	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Lead	296	0.90	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Mercury	1.0	0.035	mg/kg	1	12/03/10	12/03/10 PY	SW846 7471A <sup>1</sup>	SW846 7471A <sup>4</sup>
Nickel	21.6	3.6	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Selenium	1.1	0.90	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Silver	< 0.45	0.45	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Thallium	< 0.90	0.90	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Vanadium	29.2	0.90	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Zinc	645	1.8	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>

(1) Instrument QC Batch: MA12492(2) Instrument QC Batch: MA12497(3) Prep QC Batch: MP16325(4) Prep QC Batch: MP16331

Client Sample ID: HA113\_0-4'
Lab Sample ID: M96199-3

Matrix: SO - Soil

Date Sampled: 11/29/10

Percent Solids: 83.5

**Project:** Former Energy International Parcel, MA

### **General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	7.2			1	11/30/10	MA	SW846 CHAP7
Cyanide Reactivity	< 1.8	1.8	mg/kg	1	12/06/10	BF	SW846 CHAP7
Ignitability (Flashpoint)	> 230		Deg. F	1	12/02/10	BF	SW846 1020
Redox Potential Vs H2 <sup>a</sup>	391		mv	1	12/03/10	MC	ASTM D1498-76M
Solids, Percent	83.5		%	1	12/01/10	HS	SM21 2540 B MOD.
Sulfide Reactivity	< 60	60	mg/kg	1	12/06/10	BF	SW846 CHAP7
рН	7.2		su	1	11/30/10	MA	SW846 9045

(a) Analysis requested after recommended holding time.

Matrix:

# **Report of Analysis**

Client Sample ID: HA113\_0-4' Lab Sample ID: M96199-3A

**Date Sampled:** 11/29/10 **Date Received:** 11/29/10 **Percent Solids:** 83.5

Project:

Former Energy International Parcel, MA

### Metals Analysis, TCLP Leachate SW846 1311

SO - Soil

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	<b>Prep Method</b>
Lead	0.28	D008	5.0	0.010	mg/l	1	12/09/10	12/09/10 DA	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA12508

(2) Prep QC Batch: MP16354

RL = Reporting Limit

MCL = Maximum Contamination Level (40 CFR 261 6/96)



Client Sample ID: HA113\_12-15.5'

 Lab Sample ID:
 M96199-4
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Method:
 SW846 8260B
 Percent Solids:
 79.5

**Project:** Former Energy International Parcel, MA

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 R18619.D 1 12/07/10 GKn/aMSR663 n/a Run #2

Run #1 8.42 g Final Volume Methanol Aliquot 10.0 ml 100 ul

Run #2

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	440	ug/kg	
71-43-2	Benzene	ND	44	ug/kg	
108-86-1	Bromobenzene	ND	440	ug/kg	
74-97-5	Bromochloromethane	ND	440	ug/kg	
75-27-4	Bromodichloromethane	ND	180	ug/kg	
75-25-2	Bromoform	ND	180	ug/kg	
74-83-9	Bromomethane	ND	180	ug/kg	
78-93-3	2-Butanone (MEK)	ND	440	ug/kg	
104-51-8	n-Butylbenzene	ND	440	ug/kg	
135-98-8	sec-Butylbenzene	ND	440	ug/kg	
98-06-6	tert-Butylbenzene	ND	440	ug/kg	
75-15-0	Carbon disulfide	ND	440	ug/kg	
56-23-5	Carbon tetrachloride	ND	180	ug/kg	
108-90-7	Chlorobenzene	ND	180	ug/kg	
75-00-3	Chloroethane	ND	440	ug/kg	
67-66-3	Chloroform	ND	180	ug/kg	
74-87-3	Chloromethane	ND	440	ug/kg	
95-49-8	o-Chlorotoluene	ND	440	ug/kg	
106-43-4	p-Chlorotoluene	ND	440	ug/kg	
108-20-3	Di-Isopropyl ether	ND	180	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	440	ug/kg	
124-48-1	Dibromochloromethane	ND	180	ug/kg	
106-93-4	1,2-Dibromoethane	ND	180	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	180	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	180	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	180	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	180	ug/kg	
75-34-3	1,1-Dichloroethane	ND	180	ug/kg	
107-06-2	1,2-Dichloroethane	ND	180	ug/kg	
75-35-4	1,1-Dichloroethene	ND	180	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	180	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	180	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



Client Sample ID: HA113\_12-15.5'

 Lab Sample ID:
 M96199-4
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Method:
 SW846 8260B
 Percent Solids:
 79.5

**Project:** Former Energy International Parcel, MA

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	180	ug/kg	
142-28-9	1,3-Dichloropropane	ND	440	ug/kg	
594-20-7	2,2-Dichloropropane	ND	440	ug/kg	
563-58-6	1,1-Dichloropropene	ND	440	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	180	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	180	ug/kg	
123-91-1	1,4-Dioxane	ND	2200	ug/kg	
60-29-7	Ethyl Ether	ND	440	ug/kg	
100-41-4	Ethylbenzene	ND	180	ug/kg	
87-68-3	Hexachlorobutadiene	ND	440	ug/kg	
591-78-6	2-Hexanone	ND	440	ug/kg	
98-82-8	Isopropylbenzene	ND	440	ug/kg	
99-87-6	p-Isopropyltoluene	ND	440	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	180	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	440	ug/kg	
74-95-3	Methylene bromide	ND	440	ug/kg	
75-09-2	Methylene chloride	ND	180	ug/kg	
91-20-3	Naphthalene	1860	440	ug/kg	
103-65-1	n-Propylbenzene	ND	440	ug/kg	
100-42-5	Styrene	ND	440	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	440	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	180	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	440	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	180	ug/kg	
127-18-4	Tetrachloroethene	ND	180	ug/kg	
109-99-9	Tetrahydrofuran	ND	880	ug/kg	
108-88-3	Toluene	ND	440	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	440	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	440	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	180	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	180	ug/kg	
79-01-6	Trichloroethene	ND	180	ug/kg	
75-69-4	Trichlorofluoromethane	ND	180	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	440	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	440	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	440	ug/kg	
75-01-4	Vinyl chloride	ND	180	ug/kg	
	m,p-Xylene	ND	180	ug/kg	
95-47-6	o-Xylene	ND	180	ug/kg	
1330-20-7	Xylene (total)	ND	180	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Page 3 of 3

Client Sample ID: HA113\_12-15.5'

 Lab Sample ID:
 M96199-4
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Method:
 SW846 8260B
 Percent Solids:
 79.5

**Project:** Former Energy International Parcel, MA

#### **VOA MCP List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	112%		70-130%
2037-26-5	Toluene-D8	110%		70-130%
460-00-4	4-Bromofluorobenzene	107%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ \, \text{Indicates analyte found in associated method blank}$ 

N = Indicates presumptive evidence of a compound



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Client Sample ID: HA113\_12-15.5'

 Lab Sample ID:
 M96199-4
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Method:
 SW846 8270C
 SW846 3545
 Percent Solids:
 79.5

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 S19771.D 1 12/07/10 PR 12/03/10 OP23515 MSS816

Run #2

Initial Weight Final Volume

Run #1 20.3 g 1.0 ml

Run #2

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	620	ug/kg	
95-57-8	2-Chlorophenol	ND	310	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	620	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	620	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	620	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	ug/kg	
95-48-7	2-Methylphenol	ND	620	ug/kg	
	3&4-Methylphenol	ND	620	ug/kg	
88-75-5	2-Nitrophenol	ND	620	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	ug/kg	
87-86-5	Pentachlorophenol	ND	620	ug/kg	
108-95-2	Phenol	ND	310	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	620	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	620	ug/kg	
83-32-9	Acenaphthene	ND	310	ug/kg	
208-96-8	Acenaphthylene	ND	310	ug/kg	
98-86-2	Acetophenone	ND	620	ug/kg	
62-53-3	Aniline	ND	620	ug/kg	
120-12-7	Anthracene	527	310	ug/kg	
56-55-3	Benzo(a)anthracene	750	310	ug/kg	
50-32-8	Benzo(a)pyrene	554	310	ug/kg	
205-99-2	Benzo(b)fluoranthene	464	310	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	310	ug/kg	
207-08-9	Benzo(k)fluoranthene	456	310	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	310	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	310	ug/kg	
91-58-7	2-Chloronaphthalene	ND	310	ug/kg	
106-47-8	4-Chloroaniline	ND	620	ug/kg	
218-01-9	Chrysene	784	310	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	310	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	310	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	310	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Client Sample ID: HA113\_12-15.5'

 Lab Sample ID:
 M96199-4
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Method:
 SW846 8270C
 SW846 3545
 Percent Solids:
 79.5

**Project:** Former Energy International Parcel, MA

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units Q
95-50-1	1,2-Dichlorobenzene	ND	310	ug/kg
122-66-7	1,2-Diphenylhydrazine	ND	310	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	310	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	310	ug/kg
121-14-2	2,4-Dinitrotoluene	ND	620	ug/kg
606-20-2	2,6-Dinitrotoluene	ND	620	ug/kg
91-94-1	3,3'-Dichlorobenzidine	ND	310	ug/kg
53-70-3	Dibenzo(a,h)anthracene	ND	310	ug/kg
132-64-9	Dibenzofuran	ND	310	ug/kg
84-74-2	Di-n-butyl phthalate	ND	310	ug/kg
117-84-0	Di-n-octyl phthalate	ND	310	ug/kg
84-66-2	Diethyl phthalate	ND	310	ug/kg
131-11-3	Dimethyl phthalate	ND	310	ug/kg
117-81-7	bis(2-Ethylhexyl)phthalate	ND	310	ug/kg
206-44-0	Fluoranthene	1490	310	ug/kg
86-73-7	Fluorene	357	310	ug/kg
118-74-1	Hexachlorobenzene	ND	310	ug/kg
87-68-3	Hexachlorobutadiene	ND	310	ug/kg
77-47-4	Hexachlorocyclopentadiene	ND	620	ug/kg
67-72-1	Hexachloroethane	ND	310	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	ND	310	ug/kg
78-59-1	Isophorone	ND	310	ug/kg
91-57-6	2-Methylnaphthalene	ND	310	ug/kg
91-20-3	Naphthalene	1710	310	ug/kg
98-95-3	Nitrobenzene	ND	310	ug/kg
621-64-7	N-Nitroso-di-n-propylamine	ND	310	ug/kg
86-30-6	N-Nitrosodiphenylamine	ND	310	ug/kg
85-01-8	Phenanthrene	1330	310	ug/kg
129-00-0	Pyrene	1070	310	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	310	ug/kg
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	60%		30-130%
4165-62-2	Phenol-d5	61%		30-130%
118-79-6	2,4,6-Tribromophenol	84%		30-130%
4165-60-0	Nitrobenzene-d5	54%		30-130%
321-60-8	2-Fluorobiphenyl	67%		30-130%
1718-51-0	Terphenyl-d14	70%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



### Page 1 of 1

# **Report of Analysis**

Client Sample ID: HA113\_12-15.5'

 Lab Sample ID:
 M96199-4
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Method:
 MADEP VPH REV 1.1
 Percent Solids:
 79.5

**Project:** Former Energy International Parcel, MA

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch GBH926** Run #1 BH17789.D 1 12/06/10 AP n/an/a Run #2

Initial Weight Final Volume Methanol Aliquot
Run #1 8.42 g 11.0 ml 100 ul
Run #2

### **Volatile TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C5- C8 Aliphatics (Unadj.) C9- C12 Aliphatics (Unadj.)	ND ND	9500 9500	ug/kg ug/kg	
	C9- C10 Aromatics (Unadj.) C5- C8 Aliphatics C9- C12 Aliphatics	ND ND ND	9500 9500 9500	ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limit	S
615-59-8 615-59-8	2,5-Dibromotoluene 2,5-Dibromotoluene	114% 107%		70-13 70-13	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



Page 1 of 1

Client Sample ID: HA113\_12-15.5'

 Lab Sample ID:
 M96199-4
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Method:
 MADEP EPH REV 1.1 SW846 3550B
 Percent Solids:
 79.5

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BJ74.D 1 12/04/10 KD 12/02/10 OP23505 GBJ2

Run #2

Initial Weight Final Volume

Run #1 11.7 g 2.0 ml

Run #2

### **Extractable TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C11-C22 Aromatics (Unadj.) C9-C18 Aliphatics	139000 23200	22000 11000	ug/kg ug/kg	
	C19-C36 Aliphatics C11-C22 Aromatics	63100 122000	11000 22000	ug/kg ug/kg	
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limi	ts
84-15-1	o-Terphenyl	103%		40-14	10%
321-60-8	2-Fluorobiphenyl	87%		40-14	10%
580-13-2	2-Bromonaphthalene	82%		40-14	10%
3386-33-2	1-Chlorooctadecane	61%		40-14	10%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



C

**Client Sample ID:** HA113\_12-15.5' **Lab Sample ID:** M96199-4

Lab Sample ID:M96199-4Date Sampled:11/29/10Matrix:SO - SoilDate Received:11/29/10Percent Solids:79.5

**Project:** Former Energy International Parcel, MA

### **Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	< 0.90	0.90	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>4</sup>
Arsenic	5.0	0.90	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>4</sup>
Barium	29.8	4.5	mg/kg	1	12/01/10	12/07/10 DA	SW846 6010C <sup>3</sup>	SW846 3050B <sup>4</sup>
Beryllium	0.46	0.36	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>4</sup>
Cadmium	< 0.36	0.36	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>4</sup>
Chromium	18.5	0.90	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>4</sup>
Lead	40.4	0.90	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>4</sup>
Mercury	0.52	0.037	mg/kg	1	12/03/10	12/03/10 PY	SW846 7471A <sup>1</sup>	SW846 7471A <sup>5</sup>
Nickel	11.3	3.6	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>4</sup>
Selenium	< 0.90	0.90	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>4</sup>
Silver	< 0.45	0.45	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>4</sup>
Thallium	< 0.90	0.90	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>4</sup>
Vanadium	23.6	0.90	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>4</sup>
Zinc	46.0	1.8	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>4</sup>

(1) Instrument QC Batch: MA12492
(2) Instrument QC Batch: MA12497
(3) Instrument QC Batch: MA12501
(4) Prep QC Batch: MP16325
(5) Prep QC Batch: MP16331

Page 1 of 1

Client Sample ID: HA113\_12-15.5'

Lab Sample ID:M96199-4Date Sampled:11/29/10Matrix:SO - SoilDate Received:11/29/10Percent Solids:79.5

**Project:** Former Energy International Parcel, MA

### **General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	8.1			1	11/30/10	MA	SW846 CHAP7
Cyanide Reactivity	< 1.9	1.9	mg/kg	1	12/06/10	BF	SW846 CHAP7
Ignitability (Flashpoint)	> 230		Deg. F	1	12/02/10	BF	SW846 1020
Redox Potential Vs H2 <sup>a</sup>	361		mv	1	12/03/10	MC	ASTM D1498-76M
Solids, Percent	79.5		%	1	12/01/10	HS	SM21 2540 B MOD.
Sulfide Reactivity	< 63	63	mg/kg	1	12/06/10	BF	SW846 CHAP7
pН	8.1		su	1	11/30/10	MA	SW846 9045

(a) Analysis requested after recommended holding time.

Client Sample ID: HA111\_0-4'

 Lab Sample ID:
 M96199-5
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Method:
 SW846 8260B
 Percent Solids:
 89.1

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 R18620.D 1 12/07/10 GK n/a n/a MSR663

Run #2

Initial Weight Final Volume Methanol Aliquot

Run #1 11.4 g 10.0 ml 100 ul

Run #2

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	280	ug/kg	
71-43-2	Benzene	ND	28	ug/kg	
108-86-1	Bromobenzene	ND	280	ug/kg	
74-97-5	Bromochloromethane	ND	280	ug/kg	
75-27-4	Bromodichloromethane	ND	110	ug/kg	
75-25-2	Bromoform	ND	110	ug/kg	
74-83-9	Bromomethane	ND	110	ug/kg	
78-93-3	2-Butanone (MEK)	ND	280	ug/kg	
104-51-8	n-Butylbenzene	ND	280	ug/kg	
135-98-8	sec-Butylbenzene	ND	280	ug/kg	
98-06-6	tert-Butylbenzene	ND	280	ug/kg	
75-15-0	Carbon disulfide	ND	280	ug/kg	
56-23-5	Carbon tetrachloride	ND	110	ug/kg	
108-90-7	Chlorobenzene	ND	110	ug/kg	
75-00-3	Chloroethane	ND	280	ug/kg	
67-66-3	Chloroform	ND	110	ug/kg	
74-87-3	Chloromethane	ND	280	ug/kg	
95-49-8	o-Chlorotoluene	ND	280	ug/kg	
106-43-4	p-Chlorotoluene	ND	280	ug/kg	
108-20-3	Di-Isopropyl ether	ND	110	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	280	ug/kg	
124-48-1	Dibromochloromethane	ND	110	ug/kg	
106-93-4	1,2-Dibromoethane	ND	110	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	110	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	110	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	110	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	110	ug/kg	
75-34-3	1,1-Dichloroethane	ND	110	ug/kg	
107-06-2	1,2-Dichloroethane	ND	110	ug/kg	
75-35-4	1,1-Dichloroethene	ND	110	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	110	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	110	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Client Sample ID: HA111\_0-4' Lab Sample ID: M96199-5

 Matrix:
 SO - Soil

 Method:
 SW846 8260B

**Project:** Former Energy International Parcel, MA

# Percent Solids: 89.1

**Date Sampled:** 11/29/10

**Date Received:** 11/29/10

### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	110	ug/kg	
142-28-9	1,3-Dichloropropane	ND	280	ug/kg	
594-20-7	2,2-Dichloropropane	ND	280	ug/kg	
563-58-6	1,1-Dichloropropene	ND	280	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	110	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	110	ug/kg	
123-91-1	1,4-Dioxane	ND	1400	ug/kg	
60-29-7	Ethyl Ether	ND	280	ug/kg	
100-41-4	Ethylbenzene	ND	110	ug/kg	
87-68-3	Hexachlorobutadiene	ND	280	ug/kg	
591-78-6	2-Hexanone	ND	280	ug/kg	
98-82-8	Isopropylbenzene	ND	280	ug/kg	
99-87-6	p-Isopropyltoluene	ND	280	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	110	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	280	ug/kg	
74-95-3	Methylene bromide	ND	280	ug/kg	
75-09-2	Methylene chloride	ND	110	ug/kg	
91-20-3	Naphthalene	ND	280	ug/kg	
103-65-1	n-Propylbenzene	ND	280	ug/kg	
100-42-5	Styrene	ND	280	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	280	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	110	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	280	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	110	ug/kg	
127-18-4	Tetrachloroethene	ND	110	ug/kg	
109-99-9	Tetrahydrofuran	ND	550	ug/kg	
108-88-3	Toluene	ND	280	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	280	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	280	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	110	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	110	ug/kg	
79-01-6	Trichloroethene	ND	110	ug/kg	
75-69-4	Trichlorofluoromethane	ND	110	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	280	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	280	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	280	ug/kg	
75-01-4	Vinyl chloride	ND	110	ug/kg	
	m,p-Xylene	ND	110	ug/kg	
95-47-6	o-Xylene	ND	110	ug/kg	
1330-20-7	Xylene (total)	ND	110	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Client Sample ID: HA111\_0-4'

 Lab Sample ID:
 M96199-5
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Method:
 SW846 8260B
 Percent Solids:
 89.1

**Project:** Former Energy International Parcel, MA

### **VOA MCP List**

CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	113%		70-130%
2037-26-5	Toluene-D8	111%		70-130%
460-00-4	4-Bromofluorobenzene	111%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



**Date Sampled:** 11/29/10

Client Sample ID: HA111\_0-4' Lab Sample ID: M96199-5

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Method:
 SW846 8270C
 SW846 3545
 Percent Solids:
 89.1

**Project:** Former Energy International Parcel, MA

 File ID
 DF
 Analyzed
 By
 Prep Date
 Prep Batch
 Analytical Batch

 Run #1
 \$19772.D
 1
 \$12/07/10
 PR
 \$12/03/10
 OP23515
 MSS816

Run #2

Initial Weight Final Volume

Run #1 20.4 g 1.0 ml

Run #2

### **ABN MCP List**

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	550	ug/kg	
95-57-8	2-Chlorophenol	ND	280	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	550	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	550	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	550	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1100	ug/kg	
95-48-7	2-Methylphenol	ND	550	ug/kg	
	3&4-Methylphenol	ND	550	ug/kg	
88-75-5	2-Nitrophenol	ND	550	ug/kg	
100-02-7	4-Nitrophenol	ND	1100	ug/kg	
87-86-5	Pentachlorophenol	ND	550	ug/kg	
108-95-2	Phenol	ND	280	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	550	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	550	ug/kg	
83-32-9	Acenaphthene	ND	280	ug/kg	
208-96-8	Acenaphthylene	ND	280	ug/kg	
98-86-2	Acetophenone	ND	550	ug/kg	
62-53-3	Aniline	ND	550	ug/kg	
120-12-7	Anthracene	536	280	ug/kg	
56-55-3	Benzo(a)anthracene	1660	280	ug/kg	
50-32-8	Benzo(a)pyrene	1390	280	ug/kg	
205-99-2	Benzo(b)fluoranthene	1310	280	ug/kg	
191-24-2	Benzo(g,h,i)perylene	672	280	ug/kg	
207-08-9	Benzo(k)fluoranthene	1130	280	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	280	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	280	ug/kg	
91-58-7	2-Chloronaphthalene	ND	280	ug/kg	
106-47-8	4-Chloroaniline	ND	550	ug/kg	
218-01-9	Chrysene	1760	280	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	280	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	280	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	280	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



Client Sample ID: HA111\_0-4' Lab Sample ID: M96199-5

**Date Sampled:** 11/29/10 Matrix: **Date Received:** 11/29/10 SO - Soil Method: SW846 8270C SW846 3545 Percent Solids: 89.1

**Project:** Former Energy International Parcel, MA

### **ABN MCP List**

CAS No.	Compound	Result	RL	Units Q
95-50-1	1,2-Dichlorobenzene	ND	280	ug/kg
122-66-7	1,2-Diphenylhydrazine	ND	280	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	280	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	280	ug/kg
121-14-2	2,4-Dinitrotoluene	ND	550	ug/kg
606-20-2	2,6-Dinitrotoluene	ND	550	ug/kg
91-94-1	3,3'-Dichlorobenzidine	ND	280	ug/kg
53-70-3	Dibenzo(a,h)anthracene	314	280	ug/kg
132-64-9	Dibenzofuran	ND	280	ug/kg
84-74-2	Di-n-butyl phthalate	ND	280	ug/kg
117-84-0	Di-n-octyl phthalate	ND	280	ug/kg
84-66-2	Diethyl phthalate	ND	280	ug/kg
131-11-3	Dimethyl phthalate	ND	280	ug/kg
117-81-7	bis(2-Ethylhexyl)phthalate	ND	280	ug/kg
206-44-0	Fluoranthene	2940	280	ug/kg
86-73-7	Fluorene	ND	280	ug/kg
118-74-1	Hexachlorobenzene	ND	280	ug/kg
87-68-3	Hexachlorobutadiene	ND	280	ug/kg
77-47-4	Hexachlorocyclopentadiene	ND	550	ug/kg
67-72-1	Hexachloroethane	ND	280	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	735	280	ug/kg
78-59-1	Isophorone	ND	280	ug/kg
91-57-6	2-Methylnaphthalene	ND	280	ug/kg
91-20-3	Naphthalene	ND	280	ug/kg
98-95-3	Nitrobenzene	ND	280	ug/kg
621-64-7	N-Nitroso-di-n-propylamine	ND	280	ug/kg
86-30-6	N-Nitrosodiphenylamine	ND	280	ug/kg
85-01-8	Phenanthrene	2100	280	ug/kg
129-00-0	Pyrene	2330	280	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	280	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	57%		30-130%
4165-62-2	Phenol-d5	59%		30-130%
118-79-6	2,4,6-Tribromophenol	80%		30-130%
4165-60-0	Nitrobenzene-d5	60%		30-130%
321-60-8	2-Fluorobiphenyl	66%		30-130%
1718-51-0	Terphenyl-d14	73%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



### Page 1 of 1

# **Report of Analysis**

Client Sample ID: HA111\_0-4' Lab Sample ID: M96199-5

**Date Sampled:** 11/29/10 Matrix: SO - Soil **Date Received:** 11/29/10 Method: MADEP VPH REV 1.1 Percent Solids: 89.1

**Project:** Former Energy International Parcel, MA

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch GBH926** Run #1 BH17790.D 1 12/06/10 AP n/an/a

Run #2

**Final Volume Methanol Aliquot Initial Weight** Run #1 11.4 g 11.0 ml 100 ul

Run #2

### **Volatile TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C5- C8 Aliphatics (Unadj.) C9- C12 Aliphatics (Unadj.) C9- C10 Aromatics (Unadj.)	ND ND ND	6000 6000 6000	ug/kg ug/kg ug/kg	
	C5- C8 Aliphatics C9- C12 Aliphatics	ND ND	6000 6000	ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	ts
615-59-8 615-59-8	2,5-Dibromotoluene 2,5-Dibromotoluene	95% 88%		70-13 70-13	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



### Page 1 of 1

# **Report of Analysis**

Client Sample ID: HA111\_0-4' Lab Sample ID: M96199-5

 Lab Sample ID:
 M96199-5
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Method:
 MADEP EPH REV 1.1 SW846 3550B
 Percent Solids:
 89.1

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BJ75.D 1 12/04/10 KD 12/02/10 OP23505 GBJ2

Run #2

Initial Weight Final Volume

Run #1 11.9 g 2.0 ml

Run #2

### **Extractable TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C11-C22 Aromatics (Unadj.) C9-C18 Aliphatics C19-C36 Aliphatics C11-C22 Aromatics	67400 ND 12000 46900	19000 9400 9400 19000	ug/kg ug/kg ug/kg ug/kg	
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limi	its
84-15-1	o-Terphenyl	121%		40-1	40%
321-60-8	2-Fluorobiphenyl	93%		40-1	40%
580-13-2	2-Bromonaphthalene	87%		40-1	40%
3386-33-2	1-Chlorooctadecane	74%		40-1	40%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



C

Client Sample ID: HA111\_0-4'
Lab Sample ID: M96199-5
Matrix: SO - Soil

**Date Sampled:** 11/29/10 **Date Received:** 11/29/10 **Percent Solids:** 89.1

**Project:** Former Energy International Parcel, MA

### **Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	<b>Prep Method</b>
Antimony	2.4	0.84	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>4</sup>
Arsenic	18.9	0.84	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>4</sup>
Barium	198	4.2	mg/kg	1	12/01/10	12/07/10 da	SW846 6010C <sup>3</sup>	SW846 3050B <sup>4</sup>
Beryllium	0.65	0.34	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>4</sup>
Cadmium	0.54	0.34	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>4</sup>
Chromium	17.6	0.84	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>4</sup>
Lead	912	0.84	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>4</sup>
Mercury	0.53	0.034	mg/kg	1	12/03/10	12/03/10 PY	SW846 7471A <sup>1</sup>	SW846 7471A <sup>5</sup>
Nickel	15.4	3.4	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>4</sup>
Selenium	0.97	0.84	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>4</sup>
Silver	< 0.42	0.42	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>4</sup>
Thallium	< 0.84	0.84	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>4</sup>
Vanadium	24.6	0.84	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>4</sup>
Zinc	145	1.7	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>4</sup>

(1) Instrument QC Batch: MA12492
(2) Instrument QC Batch: MA12497
(3) Instrument QC Batch: MA12501
(4) Prep QC Batch: MP16325
(5) Prep QC Batch: MP16331

Client Sample ID: HA111\_0-4'
Lab Sample ID: M96199-5
Matrix: SO - Soil

Date Sampled: 11/29/10Date Received: 11/29/10Percent Solids: 89.1

**Project:** Former Energy International Parcel, MA

### **General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	7.7			1	11/30/10	MA	SW846 CHAP7
Cyanide Reactivity	< 1.7	1.7	mg/kg	1	12/06/10	BF	SW846 CHAP7
Ignitability (Flashpoint)	> 230		Deg. F	1	12/02/10	BF	SW846 1020
Redox Potential Vs H2 <sup>a</sup>	402		mv	1	12/03/10	MC	ASTM D1498-76M
Solids, Percent	89.1		%	1	12/01/10	HS	SM21 2540 B MOD.
Sulfide Reactivity	< 56	56	mg/kg	1	12/06/10	BF	SW846 CHAP7
рН	7.7		su	1	11/30/10	MA	SW846 9045

(a) Analysis requested after recommended holding time.

Page 1 of 1

# **Report of Analysis**

Client Sample ID: HA111\_0-4'

Lab Sample ID:M96199-5ADate Sampled:11/29/10Matrix:SO - SoilDate Received:11/29/10Percent Solids:89.1

**Project:** Former Energy International Parcel, MA

Metals Analysis, TCLP Leachate SW846 1311

Result HW# MCL RL **Prep Method** Analyte Units DF Prep Analyzed By Method SW846 6010C <sup>1</sup> SW846 3010A <sup>2</sup> Lead 0.56 D008 5.0 0.010 12/09/10 12/09/10 DA mg/l

(1) Instrument QC Batch: MA12508

(2) Prep QC Batch: MP16354

RL = Reporting Limit

MCL = Maximum Contamination Level (40 CFR 261 6/96)



C

Page 1 of 3

Client Sample ID: HA111\_8-12'

 Lab Sample ID:
 M96199-6
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Method:
 SW846 8260B
 Percent Solids:
 67.3

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 R18540.D 1 12/02/10 GK n/a n/a MSR660

Run #2

Initial Weight Final Volume Methanol Aliquot

Run #1 10.3 g 10.0 ml 100 ul

Run #2

### **VOA MCP List**

Compound	Result	RL	Units Q
Acetone	ND	480	ug/kg
Benzene	ND	48	ug/kg
Bromobenzene	ND	480	ug/kg
Bromochloromethane	ND	480	ug/kg
Bromodichloromethane	ND	190	ug/kg
Bromoform	ND	190	ug/kg
Bromomethane	ND	190	ug/kg
2-Butanone (MEK)	ND	480	ug/kg
n-Butylbenzene	ND	480	ug/kg
sec-Butylbenzene	ND	480	ug/kg
tert-Butylbenzene	ND	480	ug/kg
Carbon disulfide	ND	480	ug/kg
Carbon tetrachloride	ND	190	ug/kg
Chlorobenzene	ND	190	ug/kg
Chloroethane	ND	480	ug/kg
Chloroform	ND	190	ug/kg
Chloromethane	ND	480	ug/kg
o-Chlorotoluene	ND	480	ug/kg
p-Chlorotoluene	ND	480	ug/kg
Di-Isopropyl ether	ND	190	ug/kg
1,2-Dibromo-3-chloropropane	ND	480	ug/kg
Dibromochloromethane	ND	190	ug/kg
1,2-Dibromoethane	ND	190	ug/kg
1,2-Dichlorobenzene	ND	190	ug/kg
1,3-Dichlorobenzene	ND	190	ug/kg
1,4-Dichlorobenzene	ND	190	ug/kg
Dichlorodifluoromethane	ND	190	ug/kg
	ND	190	ug/kg
1,2-Dichloroethane	ND	190	ug/kg
1,1-Dichloroethene	ND	190	ug/kg
cis-1,2-Dichloroethene	ND	190	ug/kg
trans-1,2-Dichloroethene	ND	190	ug/kg
	Acetone Benzene Bromobenzene Bromochloromethane Bromodichloromethane Bromoform Bromomethane 2-Butanone (MEK) n-Butylbenzene sec-Butylbenzene tert-Butylbenzene Carbon disulfide Carbon tetrachloride Chlorobenzene Chloroethane Chloroform Chloromethane o-Chlorotoluene pi-Isopropyl ether 1,2-Dibromo-3-chloropropane Dibromochloromethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethene cis-1,2-Dichloroethene	Acetone Benzene Bromobenzene Bromochloromethane Bromodichloromethane Bromodichloromethane Bromodichloromethane Bromoform ND Bromomethane ND Bromomethane ND Bromomethane ND Bromomethane ND Bromomethane ND Carbon (MEK) ND ND Sec-Butylbenzene ND Carbon disulfide ND Carbon tetrachloride ND Chlorobenzene ND Chlorotohane ND Chloromethane ND Chloromethane ND O-Chlorotoluene ND Di-Isopropyl ether ND 1,2-Dibromo-3-chloropropane ND 1,2-Dichlorobenzene ND 1,3-Dichlorobenzene ND 1,3-Dichlorobenzene ND 1,4-Dichlorobenzene ND 1,1-Dichlorothane ND 1,1-Dichlorothane ND 1,2-Dichlorothane ND 1,1-Dichlorothane ND 1,1-Dichlorothene ND Cis-1,2-Dichlorothene ND	Acetone Benzene Bromobenzene Bromochloromethane Bromodichloromethane Bromodichloromethane Bromodichloromethane Bromodichloromethane Bromodichloromethane Bromodichloromethane Bromoform ND Bromomethane ND Bro

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Client Sample ID:HA111\_8-12'Lab Sample ID:M96199-6Date Sampled:11/29/10Matrix:SO - SoilDate Received:11/29/10Method:SW846 8260BPercent Solids:67.3Project:Former Energy International Parcel, MA

### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	190	ug/kg	
142-28-9	1,3-Dichloropropane	ND	480	ug/kg	
594-20-7	2,2-Dichloropropane	ND	480	ug/kg	
563-58-6	1,1-Dichloropropene	ND	480	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	190	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	190	ug/kg	
123-91-1	1,4-Dioxane	ND	2400	ug/kg	
60-29-7	Ethyl Ether	ND	480	ug/kg	
100-41-4	Ethylbenzene	ND	190	ug/kg	
87-68-3	Hexachlorobutadiene	ND	480	ug/kg	
591-78-6	2-Hexanone	ND	480	ug/kg	
98-82-8	Isopropylbenzene	ND	480	ug/kg	
99-87-6	p-Isopropyltoluene	ND	480	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	190	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	480	ug/kg	
74-95-3	Methylene bromide	ND	480	ug/kg	
75-09-2	Methylene chloride	ND	190	ug/kg	
91-20-3	Naphthalene	1510	480	ug/kg	
103-65-1	n-Propylbenzene	ND	480	ug/kg	
100-42-5	Styrene	ND	480	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	480	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	190	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	480	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	190	ug/kg	
127-18-4	Tetrachloroethene	ND	190	ug/kg	
109-99-9	Tetrahydrofuran	ND	960	ug/kg	
108-88-3	Toluene	ND	480	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	480	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	480	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	190	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	190	ug/kg	
79-01-6	Trichloroethene	ND	190	ug/kg	
75-69-4	Trichlorofluoromethane	ND	190	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	480	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	480	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	480	ug/kg	
75-01-4	Vinyl chloride	ND	190	ug/kg	
	m,p-Xylene	ND	190	ug/kg	
95-47-6	o-Xylene	ND	190	ug/kg	
1330-20-7	Xylene (total)	ND	190	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



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Client Sample ID: HA111\_8-12'

 Lab Sample ID:
 M96199-6
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Method:
 SW846 8260B
 Percent Solids:
 67.3

**Project:** Former Energy International Parcel, MA

### **VOA MCP List**

CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	111%		70-130%
2037-26-5	Toluene-D8	111%		70-130%
460-00-4	4-Bromofluorobenzene	110%		70-130%

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 $N = \ Indicates \ presumptive \ evidence \ of \ a \ compound$ 



Page 1 of 2

Client Sample ID: HA111\_8-12'
Lab Sample ID: M96199-6

Matrix: SO - Soil

**Method:** SW846 8270C SW846 3545

**Project:** Former Energy International Parcel, MA

Date Sampled: 11/29/10
Date Received: 11/29/10
Percent Solids: 67.3

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 S19773.D 1 12/07/10 PR 12/03/10 OP23515 MSS816

Run #2

Initial Weight Final Volume

Run #1 20.2 g 1.0 ml

Run #2

### **ABN MCP List**

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	730	ug/kg	
95-57-8	2-Chlorophenol	ND	370	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	730	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	730	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	730	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1500	ug/kg	
95-48-7	2-Methylphenol	ND	730	ug/kg	
	3&4-Methylphenol	850	730	ug/kg	
88-75-5	2-Nitrophenol	ND	730	ug/kg	
100-02-7	4-Nitrophenol	ND	1500	ug/kg	
87-86-5	Pentachlorophenol	ND	730	ug/kg	
108-95-2	Phenol	ND	370	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	730	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	730	ug/kg	
83-32-9	Acenaphthene	1840	370	ug/kg	
208-96-8	Acenaphthylene	651	370	ug/kg	
98-86-2	Acetophenone	ND	730	ug/kg	
62-53-3	Aniline	ND	730	ug/kg	
120-12-7	Anthracene	4850	370	ug/kg	
56-55-3	Benzo(a)anthracene	7650	370	ug/kg	
50-32-8	Benzo(a)pyrene	3890	370	ug/kg	
205-99-2	Benzo(b)fluoranthene	3490	370	ug/kg	
191-24-2	Benzo(g,h,i)perylene	1410	370	ug/kg	
207-08-9	Benzo(k)fluoranthene	2970	370	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	370	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	370	ug/kg	
91-58-7	2-Chloronaphthalene	ND	370	ug/kg	
106-47-8	4-Chloroaniline	ND	730	ug/kg	
218-01-9	Chrysene	7470	370	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	370	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	370	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	370	ug/kg	

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J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



C

**ABN MCP List** 

# **Report of Analysis**

**Date Sampled:** 11/29/10

**Date Received:** 11/29/10

**Percent Solids:** 67.3

Page 2 of 2

Client Sample ID: HA111\_8-12'

**Lab Sample ID:** M96199-6 **Matrix:** SO - Soil

**Method:** SW846 8270C SW846 3545

**Project:** Former Energy International Parcel, MA

95-50-1   1,2-Dichlorobenzene   ND   370   ug/kg     122-66-7   1,2-Diphenylhydrazine   ND   370   ug/kg     106-46-7   1,4-Dichlorobenzene   ND   370   ug/kg     106-46-7   1,4-Dichlorobenzene   ND   370   ug/kg     121-14-2   2,4-Dinitrotoluene   ND   730   ug/kg     121-14-2   2,4-Dinitrotoluene   ND   730   ug/kg     106-20-2   2,6-Dinitrotoluene   ND   730   ug/kg     132-64-9   Dibenzofuran   1920   370   ug/kg     132-64-9   Dibenzofuran   1920   370   ug/kg     147-84-0   Di-n-butyl phthalate   ND   370   ug/kg     148-66-2   Diethyl phthalate   ND   370   ug/kg     131-11-3   Dimethyl phthalate   ND   370   ug/kg     131-11-3   Dimethyl phthalate   ND   370   ug/kg     117-81-7   bis(2-Ethylhexyl)phthalate   ND   370   ug/kg     118-74-1   Hexachlorobenzene   12100   370   ug/kg     118-74-1   Hexachlorobenzene   ND   370   ug/kg     118-74-1   Hexachlorobenzene   ND   370   ug/kg     17-47-4   Hexachlorobenzene   ND   370   ug/kg     17-8-59-1   Isophorone   ND   370   ug/kg     18-59-6   2-Methylnaphthalene   1270   370   ug/kg     19-57-6   2-Methylnaphthalene   1270   370   ug/kg     19-157-6   2-Methylnaphthalene   1270   370   ug/kg     19-20-3   Naphthalene   1270   370   ug/kg     18-63-6   N-Nitroso-di-n-propylamine   ND   370   ug/kg     18-63-6   N-Nitroso-di-n-propylamine   ND   370   ug/kg     18-79-6   2,4,6-Tribromophenol   62%   30-130%     118-79-6   2,4,6-Tribromophenol   86%   30-130%   30-130%     118-79-6   2,4,6-Tribromophenol   86%   30-130%   30-130%     118-79-6   2,4,6-Tribromophenol   86%   30-130%   30	CAS No.	Compound	Result	RL	Units Q	
122-66-7         1,2-Diphenylhydrazine         ND         370         ug/kg           541-73-1         1,3-Dichlorobenzene         ND         370         ug/kg           106-46-7         1,4-Dichlorobenzene         ND         370         ug/kg           121-14-2         2,4-Dinitrotoluene         ND         730         ug/kg           606-20-2         2,6-Dinitrotoluene         ND         730         ug/kg           91-94-1         3,3'-Dichlorobenzidine         ND         370         ug/kg           53-70-3         Dibenzo(a,h)anthracene         696         370         ug/kg           132-64-9         Dibenzofuran         1920         370         ug/kg           84-74-2         Di-n-butyl phthalate         ND         370         ug/kg           117-84-0         Di-n-octyl phthalate         ND         370         ug/kg           117-84-0         Di-n-octyl phthalate         ND         370         ug/kg           131-11-3         Dimethyl phthalate         ND         370         ug/kg           117-81-7         bis(2-Ethylhexyl)phthalate         ND         370         ug/kg           86-73-7         Fluoranthene         12100         370         ug/kg <td>95-50-1</td> <td>1,2-Dichlorobenzene</td> <td>ND</td> <td>370</td> <td>ug/kg</td>	95-50-1	1,2-Dichlorobenzene	ND	370	ug/kg	
541-73-1         1,3-Dichlorobenzene         ND         370         ug/kg           106-46-7         1,4-Dichlorobenzene         ND         370         ug/kg           121-14-2         2,4-Dinitrotoluene         ND         730         ug/kg           606-20-2         2,6-Dinitrotoluene         ND         730         ug/kg           91-94-1         3,3'-Dichlorobenzidine         ND         370         ug/kg           53-70-3         Dibenzo(a,h)anthracene         696         370         ug/kg           132-64-9         Dibenzofuran         1920         370         ug/kg           117-84-0         Di-n-octyl phthalate         ND         370         ug/kg           84-66-2         Diethyl phthalate         ND         370         ug/kg           117-81-7         bis(2-Ethylhexyl)phthalate         ND         370         ug/kg           118-74-1         Hexachlorobenzene         ND         370         ug/kg           86-73-7         Fluorene         3130         370         ug/kg           87-68-3         Hexachlorobenzene         ND         370         ug/kg           87-72-1         Hexachlorocthane         ND         370         ug/kg	122-66-7		ND	370		
106-46-7         1,4-Dichlorobenzene         ND         370         ug/kg           121-14-2         2,4-Dinitrotoluene         ND         730         ug/kg           606-20-2         2,6-Dinitrotoluene         ND         730         ug/kg           91-94-1         3,3'-Dichlorobenzidine         ND         370         ug/kg           53-70-3         Dibenzofuran         1920         370         ug/kg           132-64-9         Dibenzofuran         1920         370         ug/kg           84-74-2         Di-n-butyl phthalate         ND         370         ug/kg           84-74-2         Di-n-octyl phthalate         ND         370         ug/kg           84-66-2         Diethyl phthalate         ND         370         ug/kg           117-81-7         bis(2-Ethylhexyl)phthalate         ND         370         ug/kg           206-44-0         Fluorene         3130         370         ug/kg           86-73-7         Fluorene         3130         370         ug/kg           87-68-3         Hexachlorobutadiene         ND         370         ug/kg           87-68-3         Hexachlorocyclopentadiene         ND         370         ug/kg           9	541-73-1		ND	370		
606-20-2         2,6-Dinitrotoluene         ND         730         ug/kg           91-94-1         3,3'-Dichlorobenzidine         ND         370         ug/kg           53-70-3         Dibenzofuran         1920         370         ug/kg           132-64-9         Dibenzofuran         1920         370         ug/kg           84-74-2         Di-n-butyl phthalate         ND         370         ug/kg           8117-84-0         Di-n-octyl phthalate         ND         370         ug/kg           84-66-2         Diethyl phthalate         ND         370         ug/kg           84-66-2         Diethyl phthalate         ND         370         ug/kg           117-81-7         bis(2-Ethylhexyl)phthalate         409         370         ug/kg           206-44-0         Fluoranthene         12100         370         ug/kg           86-73-7         Fluorene         3130         370         ug/kg           87-68-3         Hexachlorobenzene         ND         370         ug/kg           87-68-3         Hexachlorocyclopentadiene         ND         370         ug/kg           67-72-1         Hexachlorocyclopentadiene         ND         370         ug/kg	106-46-7		ND	370		
606-20-2         2,6-Dinitrotoluene         ND         730         ug/kg           91-94-1         3,3'-Dichlorobenzidine         ND         370         ug/kg           53-70-3         Dibenzofuran         1920         370         ug/kg           132-64-9         Dibenzofuran         1920         370         ug/kg           84-74-2         Di-n-butyl phthalate         ND         370         ug/kg           117-84-0         Di-n-octyl phthalate         ND         370         ug/kg           84-66-2         Diethyl phthalate         ND         370         ug/kg           84-66-2         Diethyl phthalate         ND         370         ug/kg           117-81-7         bis(2-Ethylhexyl)phthalate         409         370         ug/kg           206-44-0         Fluoranthene         12100         370         ug/kg           86-73-7         Fluorene         3130         370         ug/kg           87-68-3         Hexachlorobenzene         ND         370         ug/kg           87-68-3         Hexachlorocyclopentadiene         ND         370         ug/kg           67-72-1         Hexachlorocethane         ND         370         ug/kg           1	121-14-2	2,4-Dinitrotoluene	ND	730	ug/kg	
53-70-3         Dibenzo(a,h)anthracene         696         370         ug/kg           132-64-9         Dibenzofuran         1920         370         ug/kg           84-74-2         Di-n-butyl phthalate         ND         370         ug/kg           117-84-0         Di-n-octyl phthalate         ND         370         ug/kg           84-66-2         Diethyl phthalate         ND         370         ug/kg           131-11-3         Dimethyl phthalate         ND         370         ug/kg           206-44-0         Fluoranthene         12100         370         ug/kg           86-73-7         Fluorene         3130         370         ug/kg           87-68-3         Hexachlorobenzene         ND         370         ug/kg           87-68-3         Hexachlorobutadiene         ND         370         ug/kg           87-72-1         Hexachlorocyclopentadiene         ND         370         ug/kg           193-39-5         Indeno(1,2,3-cd)pyrene         1600         370         ug/kg           91-57-6         2-Methylnaphthalene         1270         370         ug/kg           98-95-3         Nitrobenzene         ND         370         ug/kg <td< td=""><td>606-20-2</td><td>2,6-Dinitrotoluene</td><td>ND</td><td>730</td><td></td></td<>	606-20-2	2,6-Dinitrotoluene	ND	730		
53-70-3         Dibenzo(a,h)anthracene         696         370         ug/kg           132-64-9         Dibenzofuran         1920         370         ug/kg           84-74-2         Di-n-butyl phthalate         ND         370         ug/kg           117-84-0         Di-n-octyl phthalate         ND         370         ug/kg           84-66-2         Diethyl phthalate         ND         370         ug/kg           131-11-3         Dimethyl phthalate         ND         370         ug/kg           117-81-7         bis(2-Ethylhexyl)phthalate         409         370         ug/kg           206-44-0         Fluoranthene         12100         370         ug/kg           86-73-7         Fluorene         3130         370         ug/kg           818-74-1         Hexachlorobenzene         ND         370         ug/kg           87-68-3         Hexachlorobutadiene         ND         370         ug/kg           87-68-3         Hexachlorocyclopentadiene         ND         370         ug/kg           87-72-1         Hexachlorocyclopentadiene         ND         370         ug/kg           91-39-5         Indeno(1,2,3-cd)pyrene         1600         370         ug/kg	91-94-1	3,3'-Dichlorobenzidine	ND	370	ug/kg	
84-74-2         Di-n-butyl phthalate         ND         370         ug/kg           117-84-0         Di-n-octyl phthalate         ND         370         ug/kg           84-66-2         Diethyl phthalate         ND         370         ug/kg           131-11-3         Dimethyl phthalate         ND         370         ug/kg           117-81-7         bis(2-Ethylhexyl)phthalate         409         370         ug/kg           206-44-0         Fluoranthene         12100         370         ug/kg           86-73-7         Fluorene         3130         370         ug/kg           818-74-1         Hexachlorobenzene         ND         370         ug/kg           87-68-3         Hexachlorobutadiene         ND         370         ug/kg           67-72-1         Hexachlorocyclopentadiene         ND         730         ug/kg           67-72-1         Hexachlorocyclopentadiene         ND         370         ug/kg           91-59-1         Isophorone         ND         370         ug/kg           91-57-6         2-Methylnaphthalene         1270         370         ug/kg           98-95-3         Nitrobenzene         ND         370         ug/kg <t< td=""><td>53-70-3</td><td>Dibenzo(a,h)anthracene</td><td>696</td><td>370</td><td></td></t<>	53-70-3	Dibenzo(a,h)anthracene	696	370		
117-84-0         Di-n-octyl phthalate         ND         370         ug/kg           84-66-2         Diethyl phthalate         ND         370         ug/kg           131-11-3         Dimethyl phthalate         ND         370         ug/kg           117-81-7         bis(2-Ethylhexyl)phthalate         409         370         ug/kg           206-44-0         Fluoranthene         12100         370         ug/kg           86-73-7         Fluorene         3130         370         ug/kg           87-68-3         Hexachlorobenzene         ND         370         ug/kg           87-68-3         Hexachlorocyclopentadiene         ND         370         ug/kg           67-72-1         Hexachlorocthane         ND         370         ug/kg           193-39-5         Indeno(1,2,3-cd)pyrene         1600         370         ug/kg           91-57-6         2-Methylnaphthalene         1270         370         ug/kg           91-20-3         Naphthalene         6010         370         ug/kg           98-95-3         Nitrobenzene         ND         370         ug/kg           86-30-6         N-Nitrosodiphenylamine         ND         370         ug/kg           <	132-64-9	Dibenzofuran	1920	370	ug/kg	
84-66-2         Diethyl phthalate         ND         370         ug/kg           131-11-3         Dimethyl phthalate         ND         370         ug/kg           117-81-7         bis(2-Ethylhexyl)phthalate         409         370         ug/kg           206-44-0         Fluoranthene         12100         370         ug/kg           86-73-7         Fluorene         3130         370         ug/kg           87-68-3         Hexachlorobenzene         ND         370         ug/kg           87-68-3         Hexachlorocyclopentadiene         ND         370         ug/kg           67-72-1         Hexachloroethane         ND         370         ug/kg           193-39-5         Indeno(1,2,3-cd)pyrene         1600         370         ug/kg           91-57-6         2-Methylnaphthalene         1270         370         ug/kg           91-20-3         Naphthalene         6010         370         ug/kg           98-95-3         Nitrobenzene         ND         370         ug/kg           86-30-6         N-Nitroso-di-n-propylamine         ND         370         ug/kg           85-01-8         Phenanthrene         10400         370         ug/kg <td< td=""><td>84-74-2</td><td>Di-n-butyl phthalate</td><td>ND</td><td>370</td><td>ug/kg</td></td<>	84-74-2	Di-n-butyl phthalate	ND	370	ug/kg	
131-11-3         Dimethyl phthalate         ND         370         ug/kg           117-81-7         bis(2-Ethylhexyl)phthalate         409         370         ug/kg           206-44-0         Fluoranthene         12100         370         ug/kg           86-73-7         Fluorene         3130         370         ug/kg           87-68-3         Hexachlorobenzene         ND         370         ug/kg           87-68-3         Hexachlorocyclopentadiene         ND         370         ug/kg           67-72-1         Hexachloroethane         ND         370         ug/kg           193-39-5         Indeno(1,2,3-cd)pyrene         1600         370         ug/kg           91-57-6         2-Methylnaphthalene         1270         370         ug/kg           91-20-3         Naphthalene         6010         370         ug/kg           98-95-3         Nitrobenzene         ND         370         ug/kg           86-30-6         N-Nitroso-di-n-propylamine         ND         370         ug/kg           85-01-8         Phenanthrene         10400         370         ug/kg           129-00-0         Pyrene         12100         370         ug/kg           120-82	117-84-0	Di-n-octyl phthalate	ND	370	ug/kg	
117-81-7         bis(2-Ethylhexyl)phthalate         409         370         ug/kg           206-44-0         Fluoranthene         12100         370         ug/kg           86-73-7         Fluorene         3130         370         ug/kg           118-74-1         Hexachlorobenzene         ND         370         ug/kg           87-68-3         Hexachlorobutadiene         ND         370         ug/kg           77-47-4         Hexachlorocyclopentadiene         ND         370         ug/kg           67-72-1         Hexachlorocyclopentadiene         ND         370         ug/kg           193-39-5         Indeno(1,2,3-cd)pyrene         1600         370         ug/kg           91-57-6         2-Methylnaphthalene         1270         370         ug/kg           91-20-3         Naphthalene         6010         370         ug/kg           98-95-3         Nitrobenzene         ND         370         ug/kg           621-64-7         N-Nitroso-di-n-propylamine         ND         370         ug/kg           85-01-8         Phenanthrene         10400         370         ug/kg           129-00-0         Pyrene         12100         370         ug/kg	84-66-2	Diethyl phthalate	ND	370	ug/kg	
206-44-0         Fluoranthene         12100         370         ug/kg           86-73-7         Fluorene         3130         370         ug/kg           118-74-1         Hexachlorobenzene         ND         370         ug/kg           87-68-3         Hexachlorobutadiene         ND         370         ug/kg           77-47-4         Hexachlorocyclopentadiene         ND         370         ug/kg           67-72-1         Hexachloroethane         ND         370         ug/kg           193-39-5         Indeno(1,2,3-cd)pyrene         1600         370         ug/kg           78-59-1         Isophorone         ND         370         ug/kg           91-57-6         2-Methylnaphthalene         1270         370         ug/kg           91-20-3         Naphthalene         6010         370         ug/kg           98-95-3         Nitrobenzene         ND         370         ug/kg           86-30-6         N-Nitroso-di-n-propylamine         ND         370         ug/kg           85-01-8         Phenanthrene         10400         370         ug/kg           129-00-0         Pyrene         12100         370         ug/kg           120-82-1         <	131-11-3	Dimethyl phthalate	ND	370	ug/kg	
86-73-7         Fluorene         3130         370         ug/kg           118-74-1         Hexachlorobenzene         ND         370         ug/kg           87-68-3         Hexachlorobutadiene         ND         370         ug/kg           77-47-4         Hexachlorocyclopentadiene         ND         730         ug/kg           67-72-1         Hexachloroethane         ND         370         ug/kg           193-39-5         Indeno(1,2,3-cd)pyrene         1600         370         ug/kg           78-59-1         Isophorone         ND         370         ug/kg           91-20-3         Naphthalene         1270         370         ug/kg           98-95-3         Nitrobenzene         ND         370         ug/kg           86-30-6         N-Nitroso-di-n-propylamine         ND         370         ug/kg           85-01-8         Phenanthrene         10400         370         ug/kg           85-01-8         Phenanthrene         10400         370         ug/kg           120-82-1         1,2,4-Trichlorobenzene         ND         370         ug/kg           CAS No.         Surrogate Recoveries         Run# 1         Run# 2         Limits	117-81-7	bis(2-Ethylhexyl)phthalate	409	370	ug/kg	
118-74-1         Hexachlorobenzene         ND         370         ug/kg           87-68-3         Hexachlorobutadiene         ND         370         ug/kg           77-47-4         Hexachlorocyclopentadiene         ND         730         ug/kg           67-72-1         Hexachloroethane         ND         370         ug/kg           193-39-5         Indeno(1,2,3-cd)pyrene         1600         370         ug/kg           78-59-1         Isophorone         ND         370         ug/kg           91-57-6         2-Methylnaphthalene         1270         370         ug/kg           91-20-3         Naphthalene         6010         370         ug/kg           98-95-3         Nitrobenzene         ND         370         ug/kg           621-64-7         N-Nitroso-di-n-propylamine         ND         370         ug/kg           86-30-6         N-Nitrosodiphenylamine         ND         370         ug/kg           85-01-8         Phenanthrene         10400         370         ug/kg           129-00-0         Pyrene         12100         370         ug/kg           120-82-1         1,2,4-Trichlorobenzene         ND         370         ug/kg <td col<="" td=""><td>206-44-0</td><td>Fluoranthene</td><td>12100</td><td>370</td><td>ug/kg</td></td>	<td>206-44-0</td> <td>Fluoranthene</td> <td>12100</td> <td>370</td> <td>ug/kg</td>	206-44-0	Fluoranthene	12100	370	ug/kg
87-68-3         Hexachlorobutadiene         ND         370         ug/kg           77-47-4         Hexachlorocyclopentadiene         ND         730         ug/kg           67-72-1         Hexachloroethane         ND         370         ug/kg           193-39-5         Indeno(1,2,3-cd)pyrene         1600         370         ug/kg           78-59-1         Isophorone         ND         370         ug/kg           91-57-6         2-Methylnaphthalene         1270         370         ug/kg           91-20-3         Naphthalene         6010         370         ug/kg           98-95-3         Nitrobenzene         ND         370         ug/kg           621-64-7         N-Nitroso-di-n-propylamine         ND         370         ug/kg           86-30-6         N-Nitrosodiphenylamine         ND         370         ug/kg           85-01-8         Phenanthrene         10400         370         ug/kg           129-00-0         Pyrene         12100         370         ug/kg           120-82-1         1,2,4-Trichlorobenzene         ND         370         ug/kg           CAS No.         Surrogate Recoveries         Run# 1         Run# 2         Limits	86-73-7	Fluorene	3130	370	ug/kg	
77-47-4         Hexachlorocyclopentadiene         ND         730         ug/kg           67-72-1         Hexachloroethane         ND         370         ug/kg           193-39-5         Indeno(1,2,3-cd)pyrene         1600         370         ug/kg           78-59-1         Isophorone         ND         370         ug/kg           91-57-6         2-Methylnaphthalene         1270         370         ug/kg           91-20-3         Naphthalene         6010         370         ug/kg           98-95-3         Nitrobenzene         ND         370         ug/kg           621-64-7         N-Nitroso-di-n-propylamine         ND         370         ug/kg           86-30-6         N-Nitrosodiphenylamine         ND         370         ug/kg           85-01-8         Phenanthrene         10400         370         ug/kg           129-00-0         Pyrene         12100         370         ug/kg           120-82-1         1,2,4-Trichlorobenzene         ND         370         ug/kg           CAS No.         Surrogate Recoveries         Run# 1         Run# 2         Limits           CAS No.         Surrogate Recoveries         Rom# 1         Run# 2         Lim	118-74-1	Hexachlorobenzene	ND	370	ug/kg	
67-72-1         Hexachloroethane         ND         370         ug/kg           193-39-5         Indeno(1,2,3-cd)pyrene         1600         370         ug/kg           78-59-1         Isophorone         ND         370         ug/kg           91-57-6         2-Methylnaphthalene         1270         370         ug/kg           91-20-3         Naphthalene         6010         370         ug/kg           98-95-3         Nitrobenzene         ND         370         ug/kg           621-64-7         N-Nitroso-di-n-propylamine         ND         370         ug/kg           86-30-6         N-Nitrosodiphenylamine         ND         370         ug/kg           85-01-8         Phenanthrene         10400         370         ug/kg           129-00-0         Pyrene         12100         370         ug/kg           120-82-1         1,2,4-Trichlorobenzene         ND         370         ug/kg           CAS No.         Surrogate Recoveries         Run# 1         Run# 2         Limits           367-12-4         2-Fluorophenol         62%         30-130%           4165-62-2         Phenol-d5         64%         30-130%           118-79-6         2,4,6-Tri	87-68-3	Hexachlorobutadiene	ND	370	ug/kg	
193-39-5         Indeno(1,2,3-cd)pyrene         1600         370         ug/kg           78-59-1         Isophorone         ND         370         ug/kg           91-57-6         2-Methylnaphthalene         1270         370         ug/kg           91-20-3         Naphthalene         6010         370         ug/kg           98-95-3         Nitrobenzene         ND         370         ug/kg           621-64-7         N-Nitroso-di-n-propylamine         ND         370         ug/kg           86-30-6         N-Nitrosodiphenylamine         ND         370         ug/kg           85-01-8         Phenanthrene         10400         370         ug/kg           129-00-0         Pyrene         12100         370         ug/kg           120-82-1         1,2,4-Trichlorobenzene         ND         370         ug/kg           CAS No.         Surrogate Recoveries         Run# 1         Run# 2         Limits           367-12-4         2-Fluorophenol         62%         30-130%           4165-62-2         Phenol-d5         64%         30-130%           118-79-6         2,4,6-Tribromophenol         86%         30-130%	77-47-4	Hexachlorocyclopentadiene	ND	730	ug/kg	
78-59-1         Isophorone         ND         370         ug/kg           91-57-6         2-Methylnaphthalene         1270         370         ug/kg           91-20-3         Naphthalene         6010         370         ug/kg           98-95-3         Nitrobenzene         ND         370         ug/kg           621-64-7         N-Nitroso-di-n-propylamine         ND         370         ug/kg           86-30-6         N-Nitrosodiphenylamine         ND         370         ug/kg           85-01-8         Phenanthrene         10400         370         ug/kg           129-00-0         Pyrene         12100         370         ug/kg           120-82-1         1,2,4-Trichlorobenzene         ND         370         ug/kg           CAS No.         Surrogate Recoveries         Run# 1         Run# 2         Limits           367-12-4         2-Fluorophenol         62%         30-130%           4165-62-2         Phenol-d5         64%         30-130%           118-79-6         2,4,6-Tribromophenol         86%         30-130%	67-72-1	Hexachloroethane	ND	370	ug/kg	
91-57-6 2-Methylnaphthalene 1270 370 ug/kg 91-20-3 Naphthalene 6010 370 ug/kg 98-95-3 Nitrobenzene ND 370 ug/kg 621-64-7 N-Nitroso-di-n-propylamine ND 370 ug/kg 86-30-6 N-Nitrosodiphenylamine ND 370 ug/kg 85-01-8 Phenanthrene 10400 370 ug/kg 129-00-0 Pyrene 12100 370 ug/kg 120-82-1 1,2,4-Trichlorobenzene ND 370 ug/kg  CAS No. Surrogate Recoveries Run# 1 Run# 2 Limits  367-12-4 2-Fluorophenol 62% 30-130% 4165-62-2 Phenol-d5 64% 30-130% 118-79-6 2,4,6-Tribromophenol 86% 30-130%	193-39-5	Indeno(1,2,3-cd)pyrene	1600	370	ug/kg	
91-20-3 Naphthalene 6010 370 ug/kg 98-95-3 Nitrobenzene ND 370 ug/kg 621-64-7 N-Nitroso-di-n-propylamine ND 370 ug/kg 86-30-6 N-Nitrosodiphenylamine ND 370 ug/kg 85-01-8 Phenanthrene 10400 370 ug/kg 129-00-0 Pyrene 12100 370 ug/kg 120-82-1 1,2,4-Trichlorobenzene ND 370 ug/kg  CAS No. Surrogate Recoveries Run# 1 Run# 2 Limits  367-12-4 2-Fluorophenol 62% 30-130% 4165-62-2 Phenol-d5 64% 30-130% 118-79-6 2,4,6-Tribromophenol 86% 30-130%	78-59-1	Isophorone	ND	370	ug/kg	
98-95-3         Nitrobenzene         ND         370         ug/kg           621-64-7         N-Nitroso-di-n-propylamine         ND         370         ug/kg           86-30-6         N-Nitrosodiphenylamine         ND         370         ug/kg           85-01-8         Phenanthrene         10400         370         ug/kg           129-00-0         Pyrene         12100         370         ug/kg           120-82-1         1,2,4-Trichlorobenzene         ND         370         ug/kg           CAS No.         Surrogate Recoveries         Run# 1         Run# 2         Limits           367-12-4         2-Fluorophenol         62%         30-130%           4165-62-2         Phenol-d5         64%         30-130%           118-79-6         2,4,6-Tribromophenol         86%         30-130%			1270	370	ug/kg	
621-64-7         N-Nitroso-di-n-propylamine         ND         370         ug/kg           86-30-6         N-Nitrosodiphenylamine         ND         370         ug/kg           85-01-8         Phenanthrene         10400         370         ug/kg           129-00-0         Pyrene         12100         370         ug/kg           120-82-1         1,2,4-Trichlorobenzene         ND         370         ug/kg           CAS No.         Surrogate Recoveries         Run# 1         Run# 2         Limits           367-12-4         2-Fluorophenol         62%         30-130%           4165-62-2         Phenol-d5         64%         30-130%           118-79-6         2,4,6-Tribromophenol         86%         30-130%	91-20-3	Naphthalene	6010	370		
86-30-6         N-Nitrosodiphenylamine         ND         370         ug/kg           85-01-8         Phenanthrene         10400         370         ug/kg           129-00-0         Pyrene         12100         370         ug/kg           120-82-1         1,2,4-Trichlorobenzene         ND         370         ug/kg           CAS No.         Surrogate Recoveries         Run# 1         Run# 2         Limits           367-12-4         2-Fluorophenol         62%         30-130%           4165-62-2         Phenol-d5         64%         30-130%           118-79-6         2,4,6-Tribromophenol         86%         30-130%	98-95-3		ND	370		
85-01-8       Phenanthrene       10400       370       ug/kg         129-00-0       Pyrene       12100       370       ug/kg         120-82-1       1,2,4-Trichlorobenzene       ND       370       ug/kg         CAS No. Surrogate Recoveries         Run# 1       Run# 2       Limits         367-12-4       2-Fluorophenol       62%       30-130%         4165-62-2       Phenol-d5       64%       30-130%         118-79-6       2,4,6-Tribromophenol       86%       30-130%	621-64-7		ND	370		
129-00-0       Pyrene       12100       370       ug/kg         120-82-1       1,2,4-Trichlorobenzene       ND       370       ug/kg         CAS No.       Surrogate Recoveries       Run# 1       Run# 2       Limits         367-12-4       2-Fluorophenol       62%       30-130%         4165-62-2       Phenol-d5       64%       30-130%         118-79-6       2,4,6-Tribromophenol       86%       30-130%	86-30-6	* •		370		
120-82-1       1,2,4-Trichlorobenzene       ND       370       ug/kg         CAS No.       Surrogate Recoveries       Run# 1       Run# 2       Limits         367-12-4       2-Fluorophenol       62%       30-130%         4165-62-2       Phenol-d5       64%       30-130%         118-79-6       2,4,6-Tribromophenol       86%       30-130%		Phenanthrene	10400	370		
CAS No.         Surrogate Recoveries         Run# 1         Run# 2         Limits           367-12-4         2-Fluorophenol         62%         30-130%           4165-62-2         Phenol-d5         64%         30-130%           118-79-6         2,4,6-Tribromophenol         86%         30-130%						
367-12-4 2-Fluorophenol 62% 30-130% 4165-62-2 Phenol-d5 64% 30-130% 118-79-6 2,4,6-Tribromophenol 86% 30-130%	120-82-1	1,2,4-Trichlorobenzene	ND	370	ug/kg	
4165-62-2 Phenol-d5 64% 30-130% 118-79-6 2,4,6-Tribromophenol 86% 30-130%	CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
4165-62-2 Phenol-d5 64% 30-130% 118-79-6 2,4,6-Tribromophenol 86% 30-130%	367-12-4	2-Fluorophenol	62%		30-130%	
118-79-6 2,4,6-Tribromophenol 86% 30-130%		-				
		2,4,6-Tribromophenol	86%			
7105 00 0 11H 000HZCHC-U5 50/0 50-150/0	4165-60-0	Nitrobenzene-d5	56%		30-130%	
321-60-8 2-Fluorobiphenyl 73% 30-130%	321-60-8		73%		30-130%	
1718-51-0 Terphenyl-d14 91% 30-130%	1718-51-0		91%		30-130%	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



Page 1 of 1

Client Sample ID: HA111\_8-12'

Lab Sample ID: M96199-6 **Date Sampled:** 11/29/10 Matrix: **Date Received:** 11/29/10 SO - Soil Method: MADEP VPH REV 1.1 **Percent Solids:** 67.3

**Project:** Former Energy International Parcel, MA

File ID DF **Prep Batch Analytical Batch** Analyzed By **Prep Date GBH926** Run #1 BH17791.D 1 12/06/10 AP n/an/a

Run #2

**Initial Weight Final Volume Methanol Aliquot** Run #1 10.3 g 11.0 ml 100 ul Run #2

### **Volatile TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C5- C8 Aliphatics (Unadj.) C9- C12 Aliphatics (Unadj.) C9- C10 Aromatics (Unadj.)	ND ND ND	10000 10000 10000	ug/kg ug/kg ug/kg	
	C5- C8 Aliphatics C9- C12 Aliphatics	ND ND	10000 10000	ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	its
615-59-8 615-59-8	2,5-Dibromotoluene 2,5-Dibromotoluene	106% 97%		70-13 70-13	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Page 1 of 1

Client Sample ID: HA111\_8-12'

 Lab Sample ID:
 M96199-6
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Method:
 MADEP EPH REV 1.1 SW846 3550B
 Percent Solids:
 67.3

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BJ76.D 1 12/04/10 KD 12/02/10 OP23505 GBJ2

Run #2

Initial Weight Final Volume

Run #1 11.2 g 2.0 ml

Run #2

### **Extractable TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C11-C22 Aromatics (Unadj.) C9-C18 Aliphatics C19-C36 Aliphatics C11-C22 Aromatics	193000 54500 143000 161000	27000 13000 13000 27000	ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1 321-60-8	o-Terphenyl 2-Fluorobiphenyl	118% 88%		40-140 40-140	%
580-13-2 3386-33-2	2-Bromonaphthalene 1-Chlorooctadecane	85% 64%		40-140 40-140	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



 Client Sample ID:
 HA111\_8-12'

 Lab Sample ID:
 M96199-6
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Percent Solids:
 67.3

**Project:** Former Energy International Parcel, MA

### **Metals Analysis**

Analyte	Result	RL	Units I	DF	Prep	Analyzed By	Method	<b>Prep Method</b>
Antimony	< 1.1	1.1	mg/kg 1	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Arsenic	6.2	1.1	mg/kg 1	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Barium	55.8	5.5	mg/kg 1	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Beryllium	0.56	0.44	mg/kg 1	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Cadmium	< 0.44	0.44	mg/kg 1	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Chromium	22.0	1.1	mg/kg 1	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Lead	82.8	1.1	mg/kg 1	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Mercury	1.4	0.078	mg/kg 2	2	12/03/10	12/03/10 PY	SW846 7471A <sup>1</sup>	SW846 7471A <sup>4</sup>
Nickel	14.1	4.4	mg/kg 1	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Selenium	< 1.1	1.1	mg/kg 1	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Silver	< 0.55	0.55	mg/kg 1	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Thallium	< 1.1	1.1	mg/kg 1	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Vanadium	28.3	1.1	mg/kg 1	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Zinc	70.3	2.2	mg/kg 1	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>

(1) Instrument QC Batch: MA12492(2) Instrument QC Batch: MA12497(3) Prep QC Batch: MP16325(4) Prep QC Batch: MP16331

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Client Sample ID: HA111\_8-12' Lab Sample ID: M96199-6

**Date Sampled:** 11/29/10 **Date Received:** 11/29/10 **Percent Solids:** 67.3

**Project:** Former Energy International Parcel, MA

SO - Soil

### **General Chemistry**

Matrix:

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	8.0			1	11/30/10	MA	SW846 CHAP7
Cyanide Reactivity	< 2.2	2.2	mg/kg	1	12/06/10	BF	SW846 CHAP7
Ignitability (Flashpoint)	> 230		Deg. F	1	12/02/10	BF	SW846 1020
Redox Potential Vs H2 <sup>a</sup>	326		mv	1	12/03/10	MC	ASTM D1498-76M
Solids, Percent	67.3		%	1	12/01/10	HS	SM21 2540 B MOD.
Sulfide Reactivity	< 74	74	mg/kg	1	12/06/10	BF	SW846 CHAP7
pН	8.0		su	1	11/30/10	MA	SW846 9045

(a) Analysis requested after recommended holding time.



Misc. Forms

Custody Documents and Other Forms

### Includes the following where applicable:

- Certification Exceptions
- Parameter Certifications (MA)
- · Chain of Custody
- MCP Form
- EPH Form
- VPH Form
- Sample Tracking Chronicle



# **Parameter Certification Exceptions**

Job Number: M96199

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA Project:

The following parameters included in this report are exceptions to NELAC certification. The certification status of each is indicated below.

Parameter	CAS#	Method	Mat	Certification Status
tert-Amyl Methyl Ether	994-05-8	SW846 8260B	SO	Certified by SOP MMS105/GC-MS
tert-Butyl Ethyl Ether	637-92-3	SW846 8260B	SO	Certified by SOP MMS105/GC-MS
Di-Isopropyl ether	108-20-3	SW846 8260B	SO	Certified by SOP MMS105/GC-MS
Tetrahydrofuran	109-99-9	SW846 8260B	SO	Certified by SOP MMS105/GC-MS



ALDRICH 465 Medit ALDRICH Suite 220 Boston, N	00, MA 02129-1400	CHAIN OF CUST	ODY RECOR	Phone (617) 886-7400 Fax (617) 886-7600 Page \ of \
	8-502	LABORATORY Acceptes	DELIVE	RY DATE 11   79   10
PROJECT NAME TO MEN	nergy International Parce !	ADDRESS My bury		OUND TIME (O Day
H&A CONTACT	Lull'min	CONTACT KGIBBON	PROJEC	MANAGER (de Withy
M96199	ate Time Depth Type	Analysis Requested  WCD March (Specification Conference on	Number of Containers	M96/99 Comments (special instructions, precautions, additional method numbers, etc.)
HA112_0-4 -/ 11/2 HA112_4-8'-2 HA113_0-4'-3 HA113_1Z-1C5'-4 HA111_0-4'-5 HA111_3-1Z-6	2 0900 U-B' \		X 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Laboratory to use applicable DEP CAM methods, unless otherwise directed.  (DVOL 8160  (2) SVICS 8270  (3) Metals CPA 6010 17470
HAIII_ \$-12'-6	( 1555 8-1) V F		2 4	(A) VPH Changes WHEP 04-1 (5) EPH C Runges WHOEF 04-1 (6) Waste Characteristics
Sampled and Relingerished by	Received by	LIQUID	(24 TOTAL)	Sampling Comments
Sign / Half Charles Print Methin Daules Firm 1444 Daules Firm 1444 Daules Firm 1615 Relinquished by	Sign 2 may Monts Print in AUNT on U. 11 N Firm Date 1/1-25-10 Time 1(C15) Received by		VOA Vial Amber Glass Plastic Bottle Preservative Volume	If metals exceeds 20x (LIPA sun TCLP limit if TO Cr > 30 mg/kg run Hex (1) and other necessary tests.
is Way Mos	Sign Way Mo	SOLID		The body of the second
irin WAYNE MORIN  irin ate 1/2940 Time 1715	Firm Date 11-29-10 Time 1715		VOA Vial  Amber Glass  Clear Glass	
clinquished by	Received by		Preservative	
gn	Sign		Volume	Evidence samples were tampered with? YES NO
int	Print	PRESERVATION KE		If YES, please explain in section below.
m	<u> </u>	ample chilled C NaOH E H <sub>2</sub> SO <sub>4</sub>	G Methanol	CONTRACTOR AND AND AND AND AND AND AND AND AND AND
ate Time	1 "	ample filtered <b>D</b> HNO <sub>3</sub> <b>F</b> HCL	H Water/NaIISO4 (circle)	WHERE BATTLE OF THE CONTROL OF THE PROPERTY OF
		tive Certainty Data Package (Laboratory to use applie		
Matrix Spike (MS) samples for This Chain of Custody Record	s needed, initial all sections:  C samples, as designated in BWSC CAM-VII have be r MCP Metals and/or Cyanide are included and identif (specify)includesdoes not in	en or will be collected, as appropriate, to meet the require fied herein. actude samples defined as Drinking Water Samples.	ments of Presumptive Certainty.	Required Reporting Limits and Data Quality Objectives
If this Chain of Custody Recor as appropriate. Laboratory sho	rd identifies samples defined as Drinking Water Sampl ould (specify if applicable)analyz	es, Trip Blanks and Field Duplicates are included and idea	nified and unalysis of TICs are required	□ RC-GW1 □ S3 □ GW3 □ RC-GW2

M96199: Chain of Custody Page 1 of 1





# Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup

### Exhibit VII A-2: MassDEP Analytical Protocol Certification Form

			Mas	ssDEP Analytica	I P	rotocol Certificatio	n Form				
Labo	ratory Name:	Accutest Laborate	orie	s of New England			Project #:	M961	99		
Proje	ct Location:	Former Energy In	iterr	national Parcel, M	4		MADEP RTN	None			
	M96199-1,M9619	ifications for the follow 19-1A,M96199-2,M961 199-5AD,M96199-5AS case narrative	99-2	2A,M96199-3,M96	19	9-3A,M96199-4,M96	` '				
М	latrices: Grou	undwater/Surface Water	()	Soil/Sediment (	X)	Drinking Water ()	Air (	)		Other	()
САМ	Protocol (check all	that apply below):									
	8260 VOC (X) CAM IIA	7470/7471 Hg CAM III B	(X)	MassDEP VPH( CAM IV A	X)	8081 Pesticides () CAM V B	7196 Hex Cr CAM VI B	()		Mass DEP APH	()
	8270 SVOC (X) CAM II B	7010 Metals CAM III C	` ′ ′	MassDEP EPH (	X)	8151 Herbicides () CAM V C	CAM VIII A	()		TO-15 VOC CAM IX B	()
	6010 Metals (X) CAM III A	6020 Metals CAM III D	`′	8082 PCB ( CAM V A	)	9014 Total () Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B	()			
	Affirmative Resp	oonses to Questions	A T	hrough F are req	uii	red for "Presumptiv	e Certainty status	5			
Α		received in a condition of (including temperatures?					,	✓	Yes	□ No	
В	Were the analytic protocol(s) follow	al method(s) and all ased?		•				<b>V</b>	Yes	□ No	
С		corrective actions and mented for all identified					selected CAM	<b>V</b>	Yes	□No	
D	Does the laborate "Quality Assurane Reporting of Ana	ory report comply with a ce and Quality Control ytical Data"?	all th	ne reporting requir	em	ents specified in CA	M VII A,	<b>V</b>	Yes	□No	
E		and TO-15 only: d APH Methods only: ' (Refer to the individua				•		<b>V</b>	Yes	□No	
		5 Methods only: Was				•		✓ ✓	Yes		
F		le CAM protocol QC a a laboratory narrative (							Yes	□No	
	Responses to q	uestions G, H, and I b	elo	w is required for	"F	Presumptive Certain	ty" status				
G	selected CAM pro			. •				\ \ -	Yes		1
		Data that achieve "F iveness requirements						data u	seabi	_	
H		ormance standards sported for the complete					tocol(s)?		Yes Yes		1
1		ponses must be addi		•				tive.	163	<u> </u>	
inqui	undersigned, att	est under the pains a onsible for obtaining	nd the	penalties of perju	ıry ma	that, based upon naterial contained in	ny personal				
analy	tical report is, to	the best of my know	/led	ge and belief, ac	cui	rate and complete.					
Signa	ature:	In fore				Position: La	boratory Director				
Print	ed Name:	Reza Tand				Date:	12/22/2010				



Aqueous	Soil 🗸	Sediment	Other			
Satisfactory ✓ B	Broken 🗌	Leaking				
N/A ✓ p	H <= 2 🗌	pH > 2				
Received on Ice	Receive	ed at 4 Deg. C	Other	✓	Rec'd at 1.3 degC.	
SW846 3550B						
DEP EPH REV 1.1	Client ID:	HA112_0-4'	La	ab ID:	M96199-1	
DEP EPH REV 1.1	Date Collected:	11/29/2010	Date Rece	eived:	11/29/2010	
ohatic: 1-Chlorooctadecane	Date Extracted	d: First Da	ate Run:		Last Date Run:	
	12/2/2010	12/4	/2010		N/A	
' '	% Solids:	Low D	ilution:		High Dilution:	
Bromonaphthalene	91.9		1		N/A	
CAS#	<u>Units</u>	Result	RDL	Q		
adj.)	ug/kg	495000 <sup>A</sup>	19000			
	Satisfactory P  N/A P  Received on Ice  SW846 3550B  DEP EPH REV 1.1  DEP EPH REV 1.1  Chatic: 1-Chlorooctadecane  Department of the companion	Satisfactory ✓ Broken ☐ N/A ✓ pH <= 2 ☐ Received on Ice ☐ Received SW846 3550B  DEP EPH REV 1.1 DEP EPH REV 1.1 Dehatic: 1-Chlorooctadecane omatic: o-Terphenyl Fluorobiphenyl Bromonaphthalene  CAS # Units	Satisfactory	Satisfactory	Satisfactory	Satisfactory

Adjusted Ranges			
C9-C18 Aliphatics	ug/kg	12100 <sup>A</sup>	9700
C19-C36 Aliphatics	ug/kg	58200 <sup>A</sup>	9700
C11-C22 Aromatics	ug/kg	<b>325000</b> <sup>c</sup>	19000
Surrogate Recoveries			Acceptance Range
1-Chlorooctadecane	%	61	40-140 %
o-Terphenyl	%	181 <sup>E</sup>	40-140 %
2-Fluorobiphenyl	%	89	40-140 %
		07	10 110 0/
2-Bromonaphthalene	%	87	40-140 %

### **Footnotes**

- A Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range
- C Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range. C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes
- E Outside control limits due to possible matrix interference.
- Z A 'J' qualifier indicates an estimated value

Were all QA/QC procedures REQUIRED by the EPH Method followed?	✓ Yes □	No- Details Attatched
Were all performance/acceptance standards for required QA/QC procedures achieved?	Yes 🗸	No- Details Attatched
Were any significant modifications made to the EPH method, as specified in Sect. 11.3?	✓ No	Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature Post

Postition <u>Laboratory Director</u>

Printed Name Reza Tand Date 12/22/2010



			_			
Matrix	Aqueous	Soil 🗸	Sediment	Other		
Containers	Satisfactory  B	Broken 🗌	Leaking [			
Aqueous Preservative	e N/A ✓ p	H <= 2	pH > 2			
Temperature	Received on Ice	Receive	ed at 4 Deg. C	Other	<b>✓</b>	Rec'd at 1.3 degC.
Extraction Method	SW846 3550B					
Method for Ranges:	MADEP EPH REV 1.1	Client ID:	HA112_4-8'	La	ab ID:	M96199-2
•	MADEP EPH REV 1.1	Date Collected:	11/29/2010	Date Rece	eived:	11/29/2010
ŭ	Aliphatic: 1-Chlorooctadecane	Date Extracted	d: First Da	ite Run:		Last Date Run:
· ·	Aromatic: o-Terphenyl	12/2/2010	12/8/	/2010		N/A
	2-Fluorobiphenyl	% Solids:	Low D	ilution:		High Dilution:
Currente Ctendende	2-Bromonaphthalene	82.7	•	1		N/A
Unadjusted Ranges	CAS#	<u>Units</u>	Result	RDL	Q	
C11-C22 Aromatics (	Unadj.)	ug/kg	94700 <sup>A</sup>	21000		

Adjusted Ranges			
C9-C18 Aliphatics	ug/kg	31100 <sup>A</sup>	10000
C19-C36 Aliphatics	ug/kg	77700 <sup>A</sup>	10000
C11-C22 Aromatics	ug/kg	74100 <sup>c</sup>	21000
Surrogate Recoveries			Acceptance Range
1-Chlorooctadecane	%	17 <sup>F</sup>	40-140 %
o-Terphenyl	%	78	40-140 %
2-Fluorobiphenyl	%	91	40-140 %
2-Bromonaphthalene	%	92	40-140 %

### **Footnotes**

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- C Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range. C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes
- F Outside control limits due to possible matrix interference. Confirmed by refractionation.
- Z A 'J' qualifier indicates an estimated value

Were all QA/QC procedures REQUIRED by the EPH Method followed?	✓ Yes 🗌	No- Details Attatched
Were all performance/acceptance standards for required QA/QC procedures achieved?	Yes 🗸	No- Details Attatched
Were any significant modifications made to the EPH method, as specified in Sect. 11.3?	✓ No 🗌	Yes- Details Attatched

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Signature Post

Postition <u>Laboratory Director</u>

Printed Name Reza Tand Date 12/22/2010



Matrix	Aqueous	Soil 🗸	Sediment	Other						
Containers	Satisfactory ✓ E	Broken 🗌	Leaking [							
Aqueous Preservativ	e N/A ✓ p	H <= 2 □	pH > 2							
Temperature	Received on Ice	Received	at 4 Deg. C	Other	<b>✓</b>	Rec'd at 1.3 degC.				
Extraction Method	SW846 3550B									
Method for Ranges:	MADEP EPH REV 1.1	Client ID: H	A113_0-4'	La	b ID:	M96199-3				
ŭ	MADEP EPH REV 1.1	Date Collected: 1	1/29/2010	Date Rece	ived:	11/29/2010				
EPH Surrogate Stds.	Aliphatic: 1-Chlorooctadecane	Date Extracted:	First Da	ite Run:		Last Date Run:				
•	Aromatic: o-Terphenyl	12/2/2010	12/8/	/2010		N/A				
	2-Fluorobiphenyl	% Solids:	Low D	ilution:		High Dilution:				
Currente Ctenderde	2-Bromonaphthalene	83.5		1		N/A				
Unadjusted Ranges	CAS#	<u>Units</u>	Result	RDL	Q					
C11-C22 Aromatics (	Unadj.)	ug/kg	168000 <sup>A</sup>	21000						

Adjusted Ranges			
C9-C18 Aliphatics	ug/kg	102000 <sup>A</sup>	10000
C19-C36 Aliphatics	ug/kg	281000 <sup>A</sup>	10000
C11-C22 Aromatics	ug/kg	157000 <sup>c</sup>	21000
Surrogate Recoveries			Acceptance Range
		_	
1-Chlorooctadecane	%	26 <sup>F</sup>	40-140 %
1-Chlorooctadecane o-Terphenyl	% %	26 <sup>-</sup> 63	40-140 % 40-140 %
o-Terphenyl	%	63	40-140 %

### **Footnotes**

- A Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range
- C Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range. C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes
- F Outside control limits due to possible matrix interference. Confirmed by refractionation.
- Z A 'J' qualifier indicates an estimated value

Were all QA/QC procedures REQUIRED by the EPH Method followed?	✓ Yes 🗌	No- Details Attatched
Were all performance/acceptance standards for required QA/QC procedures achieved?	Yes 🗸	No- Details Attatched
Were any significant modifications made to the EPH method, as specified in Sect. 11.3?	✓ No	Yes- Details Attatche

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature / /

Postition

**Laboratory Director** 

Printed Name Reza Tand

Date <u>12/22/2010</u>



Matrix	Aqueous 🗌	Soil 🗸	Sediment	Other	
Containers	Satisfactory <b>✓</b>	Broken 🗌	Leaking 🗌		
Aqueous Preservati	ive N/A ✓	pH <= 2	pH > 2 □		
Temperature	Received on Ice	Receiv	red at 4 Deg. C	Other 🗸	Rec'd at 1.3 degC.
Extraction Method	SW846 3550B				
Method for Ranges:	MADEP EPH REV 1.1	Client ID	: HA113_12-15.5'	Lab ID:	M96199-4
Method for Targets:	MADEP EPH REV 1.1	Date Collected	: 11/29/2010	Date Received:	11/29/2010
EPH Surrogate Stds.	Aliphatic: 1-Chlorooctadeca	ne Date Extract	ed: First Date	Run:	Last Date Run:
<b>3</b>	Aromatic: o-Terphenyl	12/2/2010	12/4/20	10	N/A
EPH Fractionation	2-Fluorobiphenyl	% Solids:	Low Dilu	ion:	High Dilution:
Surrogate Standards.	2-Bromonaphthalene	79.5	1		N/A
Unadjusted Ranges	CAS	S# Units	Result	RDL Q	
C11 C22 Aromotics	(Upodi)	110/10	120000 A	22000	

Adjusted Ranges			
C9-C18 Aliphatics	ug/kg	23200 A	11000
C19-C36 Aliphatics	ug/kg	63100 <sup>A</sup>	11000
C11-C22 Aromatics	ug/kg	122000 <sup>c</sup>	22000
Surrogate Recoveries			Acceptance Range
1-Chlorooctadecane	%	61	40-140 %
o-Terphenyl	%	103	40-140 %
2-Fluorobiphenyl	%	87	40-140 %
2-Bromonaphthalene	%	82	40-140 %
2-bi omonaphinalene	70	02	40 140 /0

### **Footnotes**

✓ Yes □ Were all QA/QC procedures REQUIRED by the EPH Method followed? No- Details Attatched ✓ Yes 🗌 Were all performance/acceptance standards for required QA/QC procedures achieved? No- Details Attatched Were any significant modifications made to the EPH method, as specified in Sect. 11.3? ✓ No Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature /

**Postition** 

**Laboratory Director** 12/22/2010

**Printed Name Reza Tand**  Date



Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range. C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

A 'J' qualifier indicates an estimated value

Matrix	Aqueous 🗌	Soil 🗸	Sediment	Other			
Containers	Satisfactory <b>✓</b> B	Broken 🗌	Leaking				
Aqueous Preservative	N/A ✓ p	H <= 2 □	pH > 2				
Temperature	Received on Ice	Receive	ed at 4 Deg. C	Other	<b>✓</b>	Rec'd at 1.3 degC.	
Extraction Method	SW846 3550B						
Method for Ranges: MA	ADEP EPH REV 1.1	Client ID:	HA111_0-4'	La	ab ID:	M96199-5	
•	ADEP EPH REV 1.1	Date Collected:	11/29/2010	Date Rece	eived:	11/29/2010	
EPH Surrogate Stds. Ali	phatic: 1-Chlorooctadecane	Date Extracted	d: First Da	ate Run:		Last Date Run:	
•	omatic: o-Terphenyl	12/2/2010	12/4	/2010		N/A	
	Fluorobiphenyl	% Solids:	Low D	ilution:		High Dilution:	
Currenete Ctenderde	Bromonaphthalene	89.1		1		N/A	
Unadjusted Ranges	CAS#	Units	Result	RDL	Q		
C11-C22 Aromatics (Un	adj.)	ug/kg	67400 <sup>^</sup>	19000			

Adjusted Ranges			
C9-C18 Aliphatics	ug/kg	ND <sup>A</sup>	9400
C19-C36 Aliphatics	ug/kg	12000 <sup>A</sup>	9400
C11-C22 Aromatics	ug/kg	46900 <sup>c</sup>	19000
Surrogate Recoveries			Acceptance Range
1-Chlorooctadecane	%	74	40-140 %
1-Chlorooctadecane o-Terphenyl	% %	74 121	-
			40-140 %

### Footnotes

Were all QA/QC procedures REQUIRED by the EPH Method followed?

Were all performance/acceptance standards for required QA/QC procedures achieved?

Were any significant modifications made to the EPH method, as specified in Sect. 11.3?

Yes No- Details Attatched

Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature / Signature

Postition

**Laboratory Director** 

Printed Name Reza Tand Date 12/22/2010



A Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

C Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range. C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

Z A 'J' qualifier indicates an estimated value

Matrix	Aqueous 🗌	Soil 🗸	Sediment	Other			
Containers	Satisfactory <b>✓</b>	Broken 🗌	Leaking [	]			
Aqueous Preservati	ive N/A 🗸	pH <= 2 🗌	pH > 2	]			
Temperature	Received on Ice	Receive	d at 4 Deg. C	Other 🗸	Rec'd at 1.3 degC.		
Extraction Method	SW846 3550B						
Method for Ranges:	MADEP EPH REV 1.1	Client ID:	HA111_8-12'	Lab ID:	M96199-6		
Method for Targets:	MADEP EPH REV 1.1	Date Collected:	11/29/2010	Date Received:	11/29/2010		
EPH Surrogate Stds.	Aliphatic: 1-Chlorooctadecane	Date Extracted	l: First Dat	te Run:	Last Date Run:		
	Aromatic: o-Terphenyl	12/2/2010	12/4/2	2010	N/A		
EPH Fractionation	2-Fluorobiphenyl	% Solids:	Low Di	lution:	High Dilution:		
Surrogate Standards.	2-Bromonaphthalene	67.3	1		N/A		
Unadjusted Ranges	CAS #	<u>Units</u>	Result	RDL Q			
C11 C22 Aromatics	(Unadi)	ua/ka	102000 A	27000			

Adjusted Ranges			
C9-C18 Aliphatics	ug/kg	54500 <sup>A</sup>	13000
C19-C36 Aliphatics	ug/kg	143000 <sup>A</sup>	13000
C11-C22 Aromatics	ug/kg	161000 <sup>c</sup>	27000
Surrogate Recoveries			Acceptance Range
1-Chlorooctadecane	%	64	40-140 %
o-Terphenyl	%	118	40-140 %
2-Fluorobiphenyl	%	88	40-140 %
2-Bromonaphthalene	%	85	40-140 %

### **Footnotes**

Were all QA/QC procedures REQUIRED by the EPH Method followed?

Were all performance/acceptance standards for required QA/QC procedures achieved?

Were any significant modifications made to the EPH method, as specified in Sect. 11.3?

Yes No- Details Attatched

Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature / /

Postition

**Laboratory Director** 

Printed Name Reza Tand

Date

12/22/2010



A Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

C Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range. C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

Z A 'J' qualifier indicates an estimated value

## MADED VPH FORM

WIADLE VEHI ONW								
Matrix	Aqueous	Soil <b>✓</b>	Sediment [	Other	]			
Containers	Satisfactory <b>✓</b>	Broken _	Leaking					
Aqueous Preservatives	N/A ✓	pH <= 2 □	pH > 2					
Temperature	Received on Ice	Received	at 4 Deg. C	Other 🗸	Rec'd at 1.3 degC.			
Methanol	Methanol Covering	Soil. (mL Methan	ol/g soil: 1:1 +	-/- 25%)				
Method for Ranges:	MADEP VPH REV 1.1	Client ID: HA1	12_0-4'	Lab ID:	M96199-1			
Method for Target Analytes:	MADEP VPH REV 1.1	Date Collected: 11/2	29/2010	Date Received:	11/29/2010			
VPH Surrogate Standards		Date Extracted:	First Date	e Run:	Last Date Run:			
PID: 2,5-Dibromotoluene	Э	N/A	12/6/2		N/A			
FID: 2,5-Dibromotoluene	Э	% Solids:	Low Dile	ution:	High Dilution:			
		91.9	1		N/A			
Unadjusted Ranges	CAS	ا <u>#      Elution Range</u>	<u>Units</u>	Result	<u>RDL</u> Q			
C5- C8 Aliphatics (Unadj.)		N/A	ug/kg	ND <sup>A</sup>	5800			
C9- C10 Aromatics (Unadj.	.)	N/A	ug/kg	ND <sup>A</sup>	5800			
C9- C12 Aliphatics (Unadj.	)	N/A	ug/kg	ND <sup>A</sup>	5800			
Adjusted Ranges								
C5- C8 Aliphatics		N/A	ug/kg	ND <sup>B</sup>	5800			
C9- C12 Aliphatics		N/A	ug/kg	ND D	5800			
Surrogate Recoveries				Ac	cceptance Range			
FID:2,5-Dibromotoluene			%	108	70-130 %			
PID:2,5-Dibromotoluene			%	101	70-130 %			
<u>Footnotes</u>								
A Hydrocarbon Range data exclude								
B Hydrocarbon Range data exclude concentration of Target Analytes e		s) and/or internal standards e	luting in that range. C	5-C8 Aliphatic Hydrocarb	ons exclude the			
D Hydrocarbon Range data exclude conc of Target Analytes eluting in	concentrations of any surrogate(			9-C12 aliphatic Hydrocart	oons exclude			
Z A 'J' qualifier indicates an estimate	ed value							

Were all QA/QC procedures REQUIRED by the VPH Method followed?	✓ Yes □	No- Details Attatched
Were all performance/acceptance standards for required QA/QC procedures achieved?	✓ Yes	No- Details Attatched
Were any significant modifications made to the VPH method, as specified in Sect. 11.3?	✓ No	Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature

**Postition** 

**Laboratory Director** 12/22/2010

**Printed Name** 

**Reza Tand** 

Date



		1417	<u> </u>						
Matrix	Aqueous		Soil 🗸	Sedime	ent [	Other			
Containers	Satisfactory -	<i>'</i>	Broken 🗌	Leakin	ıg [				
<b>Aqueous Preservatives</b>	N/A 🗸	<u> </u>	oH <= 2 □	pH > 2	2 [				
Temperature	Received on	Ice 🗌	Rec	eived at 4 Deg	. C [	Other	<b>•</b>	Rec'd at 1.3	degC.
Methanol	Methanol Co	vering	Soil. (mL Mo	ethanol/g soil:	1:1 +	·/- 25%)			
Method for Ranges:	MADEP VPH RE	V 1.1		<b>D:</b> HA112_4-8'				M96199-2	
Method for Target Analytes:	MADEP VPH RE	V 1.1	Date Collected	<b>d</b> : 11/29/2010		Date Rece	ved:	11/29/2010	
VPH Surrogate Standards			Date Extrac	ted: Fir	st Date	e Run:		Last Date	Run:
PID: 2,5-Dibromotoluen	е		N/A		12/6/2	010		N/A	
FID: 2,5-Dibromotoluen	е		% Solids	s: Lo	ow Dil	ution:		High Dilu	tion:
			82.7		1			N/A	
Unadjusted Ranges		CAS#	Elution Ra	ange <u>Units</u>		Result		<u>RDL</u>	Q
C5- C8 Aliphatics (Unadj.)			N/A	ug/kg		10300	A	8000	
C9- C10 Aromatics (Unadj	.)		N/A	ug/kg		ND	A	8000	
C9- C12 Aliphatics (Unadj.	.)		N/A	ug/kg		ND	A	8000	
Adjusted Ranges									
C5- C8 Aliphatics			N/A	ug/kg		10300	В	8000	
C9- C12 Aliphatics			N/A	ug/kg		ND	D	8000	
Surrogate Recoveries							Ac	ceptance Rang	<u>1e</u>
FID:2,5-Dibromotoluene				%		100		70-130 %	
PID:2,5-Dibromotoluene				%		93		70-130 %	
<u>Footnotes</u>									
A Hydrocarbon Range data exclude	-			_	-				
B Hydrocarbon Range data exclude concentration of Target Analytes		urrogate(s	) and/or internal star	ndards eluting in that ra	inge. C	5-C8 Aliphatic Hy	Irocarbo	ons exclude the	
D Hydrocarbon Range data exclude conc of Target Analytes eluting in	concentrations of any s				inge. C9	9-C12 aliphatic Hy	drocarbo	ons exclude	
Z A 'J' qualifier indicates an estimat	ed value								

Were all QA/QC procedures REQUIRED by the VPH Method followed?	✓ Yes	No- Details Attatched
		No- Details Attatched
Were any significant modifications made to the VPH method, as specified in Sect. 11.3?	✓ No	Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature / /

Postition

<u>Laboratory Director</u> <u>12/22/2010</u>

**Printed Name** 

Reza Tand

Date



## MADED VOLLEDOM

Matrix	Aqueous	Soil <b>✓</b>	Sediment	Other				
Containers	Satisfactory <b>✓</b>	Broken	Leaking					
Aqueous Preservatives	N/A ✓	pH <= 2	pH > 2					
Temperature	Received on Ice	Received	l at 4 Deg. C	Other •	Rec'd at 1.3	degC.		
Methanol	Methanol Covering	Soil. (mL Methan	ol/g soil: 1:1 -	+/- 25%)				
Method for Ranges:	MADEP VPH REV 1.1	Client ID: HA	_		: M96199-3			
Method for Target Analytes:	MADEP VPH REV 1.1	Date Collected: 11/2	29/2010	Date Received:	: 11/29/2010			
VPH Surrogate Standards		Date Extracted:	First Dat	te Run:	Last Date I	Run:		
PID: 2,5-Dibromotoluene	Э	N/A	12/6/2	2010	N/A			
FID: 2,5-Dibromotoluene	Э	% Solids:	Low Dil	lution:	High Dilut	ion:		
		83.5	1		N/A			
Unadjusted Ranges	CAS #	Elution Range	<u>Units</u>	Result	<u>RDL</u>	<u>Q</u>		
C5- C8 Aliphatics (Unadj.)		N/A	ug/kg	ND <sup>A</sup>	7600			
C9- C10 Aromatics (Unadj	.)	N/A	ug/kg	ND <sup>A</sup>	7600			
C9- C12 Aliphatics (Unadj.	)	N/A	ug/kg	ND <sup>A</sup>	7600			
Adjusted Ranges								
C5- C8 Aliphatics		N/A	ug/kg	ND <sup>B</sup>	7600			
C9- C12 Aliphatics		N/A	ug/kg	ND <sup>□</sup>	7600			
Surrogate Recoveries				<u> </u>	Acceptance Range	<u>e</u>		
FID:2,5-Dibromotoluene			%	103	70-130 %			
PID:2,5-Dibromotoluene			%	96	70-130 %			
<u>Footnotes</u>								
_	concentrations of any surrogate(s							
B Hydrocarbon Range data exclude concentration of Target Analytes 6	concentrations of any surrogate(seluting in that range.	s) and/or internal standards e	luting in that range. C	-5-68 Aliphatic Hydrocai	bons exclude the			
D Hydrocarbon Range data exclude conc of Target Analytes eluting in	concentrations of any surrogate(stat range AND concentration of Concentrat			9-C12 aliphatic Hydroca	rbons exclude			
Z A 'J' qualifier indicates an estimate	ed value							

✓ Yes □ Were all QA/QC procedures REQUIRED by the VPH Method followed? No- Details Attatched ✓ Yes 🗌 Were all performance/acceptance standards for required QA/QC procedures achieved? No- Details Attatched Were any significant modifications made to the VPH method, as specified in Sect. 11.3? ✓ No □ Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature /

**Postition** 

**Laboratory Director** 

**Printed Name** 

**Reza Tand** 

Date

12/22/2010



## MADED VOL EODM

	IVI <i>F</i>	ADER VENI				
Matrix	Aqueous	Soil <b>✓</b>	Sediment	Other		
Containers	Satisfactory <	Broken	Leaking			
Aqueous Preservatives	s N/A ✓	pH <= 2	pH > 2			
Temperature	Received on Ice	Received	at 4 Deg. C	☐ Other •	Rec'd at 1.3 c	legC.
Methanol	Methanol Covering	Soil. (mL Methan	ol/g soil: 1:1	+/- 25%)		
Method for Ranges:	MADEP VPH REV 1.1	Client ID: HA1	113_12-15.5' <b>Lab ID</b>		D: M96199-4	
Method for Target Analytes:	MADEP VPH REV 1.1	Date Collected: 11/2	29/2010	Date Received:	11/29/2010	
VPH Surrogate Standards		Date Extracted:	First Da	te Run:	Last Date R	un:
PID: 2,5-Dibromotoluer	ne	N/A	12/6/2	2010	N/A	
FID: 2,5-Dibromotoluer	ne	% Solids:	Low Di	lution:	High Dilution:	
		79.5	1		N/A	
Unadjusted Ranges	CAS:	<u>Elution Range</u>	<u>Units</u>	Result	<u>RDL</u>	<u>Q</u>
C5- C8 Aliphatics (Unadj.	)	N/A	ug/kg	ND <sup>A</sup>	9500	
C9- C10 Aromatics (Unac	ij.)	N/A	ug/kg	ND <sup>A</sup>	9500	
C9- C12 Aliphatics (Unad	j.)	N/A	ug/kg	ND <sup>A</sup>	9500	
Adjusted Ranges						
C5- C8 Aliphatics		N/A	ug/kg	ND <sup>B</sup>	9500	
C9- C12 Aliphatics		N/A	ug/kg	ND <sup>D</sup>	9500	
Surrogate Recoveries				<u>A</u>	cceptance Range	
FID:2,5-Dibromotoluene			%	114	70-130 %	
PID:2,5-Dibromotoluene			%	107	70-130 %	
<u>Footnotes</u>						
,	le concentrations of any surrogate( le concentrations of any surrogate( s eluting in that range.	•		C5-C8 Aliphatic Hydrocar	bons exclude the	
D Hydrocarbon Range data exclud	le concentrations of any surrogate( n that range AND concentration of			9-C12 aliphatic Hydrocar	bons exclude	
7	ded color					

Were all QA/QC procedures REQUIRED by the VPH Method followed?	✓ Yes	No- Details Attatched
Were all performance/acceptance standards for required QA/QC procedures achieved?	✓ Yes	No- Details Attatched
Were any significant modifications made to the VPH method, as specified in Sect. 11.3?	✓ No	Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature

**Postition** 

**Laboratory Director** 

**Printed Name** 

**Reza Tand** 

Date

12/22/2010



	IV17	ADEL VIIII	CIXIVI			
Matrix	Aqueous	Soil <b>✓</b>	Sediment [	Other		
Containers	Satisfactory <b>✓</b>	Broken	Leaking			
Aqueous Preservatives	N/A ✓	pH <= 2	pH > 2			
Temperature	Received on Ice	Received	at 4 Deg. C	Other	✓ Rec'd at 1.3 degC.	
Methanol	Methanol Covering	Soil. (mL Methan	ol/g soil: 1:1 +	·/- 25%)		
Method for Ranges:	MADEP VPH REV 1.1	Client ID: HA	111_0-4'	Lab ID	: M96199-5	
Method for Target Analytes:	MADEP VPH REV 1.1	Date Collected: 11/2	29/2010	Date Received	ed: 11/29/2010	
VPH Surrogate Standards		Date Extracted:	First Date	- Run	Last Date Run:	
PID: 2,5-Dibromotoluene	е	N/A	12/6/2		N/A	
FID: 2,5-Dibromotoluene	е	% Solids:	Low Dilu	ution:	High Dilution:	
,		89.1	1		N/A	
Unadjusted Ranges	CAS	# Elution Range	<u>Units</u>	Result	<u>RDL</u> Q	
C5- C8 Aliphatics (Unadj.)		N/A	ug/kg	ND <sup>A</sup>	6000	
C9- C10 Aromatics (Unadj.	.)	N/A	ug/kg	ND <sup>A</sup>	6000	
C9- C12 Aliphatics (Unadj.	)	N/A	ug/kg	ND <sup>A</sup>	6000	
Adjusted Ranges						
C5- C8 Aliphatics		N/A	ug/kg	ND <sup>B</sup>	6000	
C9- C12 Aliphatics		N/A	ug/kg	ND D	6000	
Surrogate Recoveries				<u>.</u>	Acceptance Range	
FID:2,5-Dibromotoluene			%	95	70-130 %	
PID:2,5-Dibromotoluene			%	88	70-130 %	
Footnotes						
A Hydrocarbon Range data exclude						
B Hydrocarbon Range data exclude concentration of Target Analytes e		s) and/or internal standards e	luting in that range. C	5-C8 Aliphatic Hydroca	irbons exclude the	
D Hydrocarbon Range data exclude conc of Target Analytes eluting in	concentrations of any surrogate(			-C12 aliphatic Hydroca	arbons exclude	
Z A 'J' qualifier indicates an estimate	ed value					

Were all QA/QC procedures REQUIRED by the VPH Method followed?	✓ Yes	No- Details Attatched
Were all performance/acceptance standards for required QA/QC procedures achieved?	✓ Yes	No- Details Attatched
Were any significant modifications made to the VPH method, as specified in Sect. 11.3?	✓ No	Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature Postiti

Postition <u>Laboratory Director</u>

Printed Name Reza Tand Date 12/22/2010



	MADEL VIIII ONW							
Matrix	Aqueous	Soil <b>✓</b>	Sediment	Other	]			
Containers	Satisfactory <b>✓</b>	Broken _	Leaking					
Aqueous Preservatives	N/A ✓	pH <= 2 □	pH > 2					
Temperature	Received on Ice	Received	l at 4 Deg. C	Other ✓	Rec'd at 1.3 degC.			
Methanol	Methanol Covering	g Soil. (mL Methan	ol/g soil: 1:1	+/- 25%)				
Method for Ranges:	MADEP VPH REV 1.1	Client ID: HA	_	Lab ID:	M96199-6			
Method for Target Analytes:	MADEP VPH REV 1.1	Date Collected: 11/2	29/2010	Date Received:	11/29/2010			
VPH Surrogate Standards		Date Extracted:	First Dat	te Run:	Last Date Run:			
PID: 2,5-Dibromotoluene	е	N/A	12/6/2	2010	N/A			
FID: 2,5-Dibromotoluene	е	% Solids:	Low Di	lution:	High Dilution:			
		67.3	1		N/A			
Unadjusted Ranges	CAS	# Elution Range	<u>Units</u>	Result	<u>RDL</u> Q			
C5- C8 Aliphatics (Unadj.)		N/A	ug/kg	ND <sup>A</sup>	10000			
C9- C10 Aromatics (Unadj	.)	N/A	ug/kg	ND <sup>A</sup>	10000			
C9- C12 Aliphatics (Unadj.	)	N/A	ug/kg	ND <sup>A</sup>	10000			
Adjusted Ranges								
C5- C8 Aliphatics		N/A	ug/kg	ND <sup>B</sup>	10000			
C9- C12 Aliphatics		N/A	ug/kg	ND D	10000			
Surrogate Recoveries				Ac	cceptance Range			
FID:2,5-Dibromotoluene			%	106	70-130 %			
PID:2,5-Dibromotoluene			%	97	70-130 %			
<u>Footnotes</u>								
A Hydrocarbon Range data exclude			-					
B Hydrocarbon Range data exclude concentration of Target Analytes 6		(s) and/or internal standards e	luting in that range. (	C5-C8 Aliphatic Hydrocarb	ons exclude the			
D Hydrocarbon Range data exclude conc of Target Analytes eluting in				9-C12 aliphatic Hydrocarb	ons exclude			
Z A 'J' qualifier indicates an estimate	ed value							

Were all QA/QC procedures REQUIRED by the VPH Method followed?	✓ Yes	No- Details Attatched
Were all performance/acceptance standards for required QA/QC procedures achieved?	✓ Yes	No- Details Attatched
Were any significant modifications made to the VPH method, as specified in Sect. 11.3?	✓ No	Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

**Postition Laboratory Director** Signature

12/22/2010 Date **Printed Name Reza Tand** 



# **Internal Sample Tracking Chronicle**

Haley & Aldrich

M96199 Job No:

Former Energy International Parcel, MA Project No: 06318-502

Sample Number	Method	Analyzed	Ву	Prepped	Ву	Test Codes
M96199-1	Collected: 29-NOV-10	08:25 Bv: MG	Recei	ved: 29-NOV	7-10 By	v: JB
HA112_0-4		<b>,</b>				
M96199-1	SW846 9045	30-NOV-10	MA			PH
M96199-1	SW846 CHAP7	30-NOV-10	MA			CORR
M96199-1	SM21 2540 B MOD.	01-DEC-10	HS			% SOL
M96199-1	SW846 1020	02-DEC-10	BF			IGN
M96199-1	SW846 8260B	02-DEC-10 22:51	GK			V8260MCP
M96199-1	ASTM D1498-76M	03-DEC-10	MC			EH
M96199-1	SW846 7471A	03-DEC-10 15:26	PY	03-DEC-10	EM	HG
M96199-1	MADEP EPH REV 1.1	04-DEC-10 12:10	KD	02-DEC-10	MS	BMAEPHR
M96199-1	SW846 CHAP7	06-DEC-10	BF	06-DEC-10	BF	CREAC,SREAC
M96199-1	SW846 CHAP7	06-DEC-10	BF	06-DEC-10	BF	CREAC,SREAC
M96199-1	SW846 6010C	06-DEC-10 13:51	DA	01-DEC-10	EM	AG, AS, BA, BE, CD, CR, NI, PB, SI SE, TL, V, ZN
M96199-1	MADEP VPH REV 1.1	106-DEC-10 16:23	AP			VMAVPHR
M96199-1		06-DEC-10 22:55	PR	03-DEC-10	FC	AB8270MCP
M96199-1	SW846 8270C	07-DEC-10 13:49	PR	03-DEC-10	FC	AB8270MCP
	Collected: 29-NOV-10	09:00 By: MG	Recei	ved: 29-NOV	7-10 By	y: JB
HA112_4-8	3'					
M96199-2	SW846 9045	30-NOV-10	MA			РН
M96199-2	SW846 CHAP7	30-NOV-10	MA			CORR
M96199-2	SM21 2540 B MOD.	01-DEC-10	HS			% SOL
M96199-2	SW846 1020	02-DEC-10	BF			IGN
M96199-2	SW846 8260B	02-DEC-10 23:18	GK			V8260MCP
M96199-2	ASTM D1498-76M	03-DEC-10	MC			EH
M96199-2	SW846 7471A	03-DEC-10 15:28	PY	03-DEC-10		HG
M96199-2	SW846 CHAP7	06-DEC-10	BF	06-DEC-10	BF	CREAC,SREAC
M96199-2		06-DEC-10	BF	06-DEC-10		CREAC,SREAC
M96199-2	SW846 6010C	06-DEC-10 13:56	DA	01-DEC-10	EM	AG, AS, BA, BE, CD, CR, NI, PB, SI SE, TL, V, ZN
M96199-2	MADEP VPH REV 1.1	1 06-DEC-10 17:03	AP			VMAVPHR
M96199-2	SW846 8270C	06-DEC-10 23:24	PR	03-DEC-10	FC	AB8270MCP
M96199-2	MADEP EPH REV 1.1	08-DEC-10 18:45	AL	02-DEC-10	MS	BMAEPHR
M96199-3	Collected: 29-NOV-10	11:25 By: MG	Recei	ved: 29-NOV	7-10 By	y: JB
HA113_0-4	·					



# **Internal Sample Tracking Chronicle**

Haley & Aldrich

M96199 Job No:

Former Energy International Parcel, MA Project No: 06318-502

Sample Number	Method	Analyzed	Ву	Prepped	Ву	Test Codes
M96199-3	SW846 9045	30-NOV-10	MA			PH
M96199-3	SW846 CHAP7	30-NOV-10	MA			CORR
M96199-3	SM21 2540 B MOD.	01-DEC-10	HS			% SOL
M96199-3	SW846 1020	02-DEC-10	BF			IGN
M96199-3	SW846 8260B	02-DEC-10 23:45	GK			V8260MCP
M96199-3	ASTM D1498-76M	03-DEC-10	MC			EH
M96199-3	SW846 7471A	03-DEC-10 15:31	PY	03-DEC-10	EM	HG
M96199-3	SW846 CHAP7	06-DEC-10	BF	06-DEC-10	BF	CREAC, SREAC
M96199-3	SW846 CHAP7	06-DEC-10	BF	06-DEC-10	BF	CREAC, SREAC
M96199-3	SW846 6010C	06-DEC-10 14:00	DA	01-DEC-10	EM	AG, AS, BA, BE, CD, CR, NI, PB, SE, TL, V, ZN
M96199-3	MADEP VPH REV 1.1	106-DEC-10 17:42	AP			VMAVPHR
M96199-3	SW846 8270C	06-DEC-10 23:53	PR	03-DEC-10	FC	AB8270MCP
M96199-3	MADEP EPH REV 1.1	08-DEC-10 19:21	AL	02-DEC-10	MS	BMAEPHR
M96199-4 HA113_12-	Collected: 29-NOV-10-15.5'	12:50 By: MG	Recei	ved: 29-NOV	-10 By	y: JB
M96199-4	SW846 9045	30-NOV-10	MA			PH
M96199-4	SW846 CHAP7	30-NOV-10	MA			CORR
M96199-4	SM21 2540 B MOD.	01-DEC-10	HS			% SOL
M96199-4	SW846 1020	02-DEC-10	BF			IGN
M96199-4	ASTM D1498-76M	03-DEC-10	MC			EH
M96199-4	SW846 7471A	03-DEC-10 15:37	PY	03-DEC-10	EM	HG
M96199-4	MADEP EPH REV 1.1	04-DEC-10 13:59	KD	02-DEC-10	MS	BMAEPHR
M96199-4	SW846 CHAP7	06-DEC-10	BF	06-DEC-10	BF	CREAC,SREAC
M96199-4	SW846 CHAP7	06-DEC-10	BF	06-DEC-10	BF	CREAC,SREAC
M96199-4	SW846 6010C	06-DEC-10 14:04	DA	01-DEC-10	EM	AG, AS, BE, CD, CR, NI, PB, SB, SI TL, V, ZN
M96199-4	MADEP VPH REV 1.1	106-DEC-10 18:22	AP			VMAVPHR
M96199-4	SW846 8270C	07-DEC-10 00:22	PR	03-DEC-10	FC	AB8270MCP
M96199-4	SW846 6010C	07-DEC-10 14:39	DA	01-DEC-10	EM	BA
M96199-4	SW846 8260B	07-DEC-10 17:07	GK			V8260MCP
M96199-5 HA111_0-4		14:00 By: MG	Recei	ved: 29-NOV	-10 By	y: JB
M96199-5	SW846 9045	30-NOV-10	MA			РН
M96199-5	SW846 CHAP7	30-NOV-10	MA			CORR
M96199-5	SM21 2540 B MOD.	01-DEC-10	HS			% SOL



# **Internal Sample Tracking Chronicle**

Haley & Aldrich

M96199 Job No:

Former Energy International Parcel, MA Project No: 06318-502

Sample Number	Method	Analyzed	Ву	Prepped	Ву	Test Codes
Number	Wiethou	Allaryzeu	Бу	Ттеррец	Бу	Test Codes
M96199-5	SW846 1020	02-DEC-10	BF			IGN
M96199-5	ASTM D1498-76M	03-DEC-10	MC			EH
M96199-5	SW846 7471A	03-DEC-10 15:21	PY	03-DEC-10	EM	HG
M96199-5	MADEP EPH REV 1.1	04-DEC-10 14:35	KD	02-DEC-10	MS	BMAEPHR
M96199-5	SW846 CHAP7	06-DEC-10	BF	06-DEC-10	BF	CREAC,SREAC
M96199-5	SW846 CHAP7	06-DEC-10	BF	06-DEC-10	BF	CREAC, SREAC
M96199-5	SW846 6010C	06-DEC-10 13:18	DA	01-DEC-10	EM	AG, AS, BE, CD, CR, NI, PB, SB, SI TL, V, ZN
M96199-5	MADEP VPH REV 1.1	1 06-DEC-10 19:02	AP			VMAVPHR
	SW846 8270C	07-DEC-10 00:50	PR	03-DEC-10	FC	AB8270MCP
	SW846 6010C	07-DEC-10 14:04	DA	01-DEC-10		BA
	SW846 8260B	07-DEC-10 17:35	GK			V8260MCP
M96199-6 HA111_8-1	Collected: 29-NOV-10 2'	15:05 By: MG	Receiv	ved: 29-NOV	-10 By	v: JB
M96199-6	SW846 9045	30-NOV-10	MA			РН
M96199-6		30-NOV-10	MA			CORR
	SM21 2540 B MOD.	01-DEC-10	HS			% SOL
	SW846 1020	02-DEC-10	BF			IGN
	SW846 8260B	02-DEC-10 22:24	GK			V8260MCP
M96199-6	ASTM D1498-76M	03-DEC-10	MC			EH
	SW846 7471A	03-DEC-10 16:21	PY	03-DEC-10	EM	HG
M96199-6	MADEP EPH REV 1.1		KD	02-DEC-10	MS	BMAEPHR
	SW846 CHAP7	06-DEC-10	BF	06-DEC-10		CREAC,SREAC
M96199-6	SW846 CHAP7	06-DEC-10	BF	06-DEC-10	BF	CREAC, SREAC
M96199-6	SW846 6010C	06-DEC-10 14:09	DA	01-DEC-10	EM	AG, AS, BA, BE, CD, CR, NI, PB, S SE, TL, V, ZN
M96199-6	MADEP VPH REV 1.1	106-DEC-10 19:42	AP			VMAVPHR
M96199-6	SW846 8270C	07-DEC-10 01:19	PR	03-DEC-10	FC	AB8270MCP
M96199-1 <i>A</i> HA112_0-4	A Collected: 29-NOV-10	08:25 By: MG	Receiv	ved: 29-NOV	-10 By	r: JB
M96199-1A	A SW846 6010C	09-DEC-10 23:35	DA	09-DEC-10	EM	EPB
M96199-2 <i>A</i> HA112_4-8	A Collected: 29-NOV-10	09:00 By: MG	Receiv	ved: 29-NOV	-10 By	7: JB
M96199-2A	A SW846 6010C	09-DEC-10 23:40	DA	09-DEC-10	EM	ЕРВ



# **Internal Sample Tracking Chronicle**

Haley & Aldrich

Job No: M96199

Former Energy International Parcel, MA Project No: 06318-502

Sample Number	Method	Analyzed	Ву	Prepped	Ву	Test Codes
M96199-3A HA113_0-4	Collected: 29-NOV-10	11:25 By: MG	Receiv	ved: 29-NOV	-10 By	v: JB
M96199-3A	SW846 6010C	09-DEC-10 23:44	DA	09-DEC-10	EM	ЕРВ
M96199-5A HA111_0-4	Collected: 29-NOV-10	14:00 By: MG	Receiv	ved: 29-NOV	-10 By	7: JB
M96199-5A	SW846 6010C	09-DEC-10 22:55	DA	09-DEC-10	EM	EPB



#### GC/MS Volatiles

#### QC Data Summaries

# Includes the following where applicable:

- · Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries



#### **Method Blank Summary**

Job Number: M96199

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	<b>Prep Date</b>	<b>Prep Batch</b>	Analytical Batch
MSR660-MB	R18522A.D	1	12/02/10	GK	n/a	n/a	MSR660

The QC reported here applies to the following samples:

CAS No.	Compound	Result	RL	Units Q
67-64-1	Acetone	ND	250	ug/kg
71-43-2	Benzene	ND	25	ug/kg
108-86-1	Bromobenzene	ND	250	ug/kg
74-97-5	Bromochloromethane	ND	250	ug/kg
75-27-4	Bromodichloromethane	ND	100	ug/kg
75-25-2	Bromoform	ND	100	ug/kg
74-83-9	Bromomethane	ND	100	ug/kg
78-93-3	2-Butanone (MEK)	ND	250	ug/kg
104-51-8	n-Butylbenzene	ND	250	ug/kg
135-98-8	sec-Butylbenzene	ND	250	ug/kg
98-06-6	tert-Butylbenzene	ND	250	ug/kg
75-15-0	Carbon disulfide	ND	250	ug/kg
56-23-5	Carbon tetrachloride	ND	100	ug/kg
108-90-7	Chlorobenzene	ND	100	ug/kg
75-00-3	Chloroethane	ND	250	ug/kg
67-66-3	Chloroform	ND	100	ug/kg
74-87-3	Chloromethane	ND	250	ug/kg
95-49-8	o-Chlorotoluene	ND	250	ug/kg
106-43-4	p-Chlorotoluene	ND	250	ug/kg
108-20-3	Di-Isopropyl ether	ND	100	ug/kg
96-12-8	1,2-Dibromo-3-chloropropane	ND	250	ug/kg
124-48-1	Dibromochloromethane	ND	100	ug/kg
106-93-4	1,2-Dibromoethane	ND	100	ug/kg
95-50-1	1,2-Dichlorobenzene	ND	100	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	100	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	100	ug/kg
75-71-8	Dichlorodifluoromethane	ND	100	ug/kg
75-34-3	1,1-Dichloroethane	ND	100	ug/kg
107-06-2	1,2-Dichloroethane	ND	100	ug/kg
75-35-4	1,1-Dichloroethene	ND	100	ug/kg
156-59-2	cis-1,2-Dichloroethene	ND	100	ug/kg
156-60-5	trans-1,2-Dichloroethene	ND	100	ug/kg
78-87-5	1,2-Dichloropropane	ND	100	ug/kg
142-28-9	1,3-Dichloropropane	ND	250	ug/kg
594-20-7	2,2-Dichloropropane	ND	250	ug/kg
563-58-6	1,1-Dichloropropene	ND	250	ug/kg

# **Method Blank Summary**

Job Number: M96199

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA **Project:** 

Sample	File ID	DF	Analyzed	By	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
MSR660-MB	R18522A.D	1	12/02/10	GK	n/a	n/a	MSR660

#### The QC reported here applies to the following samples:

CAS No.	Compound	Result	RL	Units Q
10061-01-5	cis-1,3-Dichloropropene	ND	100	ug/kg
	trans-1,3-Dichloropropene	ND	100	ug/kg
123-91-1	1,4-Dioxane	ND	1300	ug/kg
60-29-7	Ethyl Ether	ND	250	ug/kg
100-41-4	Ethylbenzene	ND	100	ug/kg
87-68-3	Hexachlorobutadiene	ND	250	ug/kg
591-78-6	2-Hexanone	ND	250	ug/kg
98-82-8	Isopropylbenzene	ND	250	ug/kg
99-87-6	p-Isopropyltoluene	ND	250	ug/kg
1634-04-4	Methyl Tert Butyl Ether	ND	100	ug/kg
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	250	ug/kg
74-95-3	Methylene bromide	ND	250	ug/kg
75-09-2	Methylene chloride	ND	100	ug/kg
91-20-3	Naphthalene	ND	250	ug/kg
103-65-1	n-Propylbenzene	ND	250	ug/kg
100-42-5	Styrene	ND	250	ug/kg
994-05-8	tert-Amyl Methyl Ether	ND	250	ug/kg
637-92-3	tert-Butyl Ethyl Ether	ND	100	ug/kg
630-20-6	1,1,1,2-Tetrachloroethane	ND	250	ug/kg
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	ug/kg
127-18-4	Tetrachloroethene	ND	100	ug/kg
109-99-9	Tetrahydrofuran	ND	500	ug/kg
108-88-3	Toluene	ND	250	ug/kg
87-61-6	1,2,3-Trichlorobenzene	ND	250	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	250	ug/kg
71-55-6	1,1,1-Trichloroethane	ND	100	ug/kg
79-00-5	1,1,2-Trichloroethane	ND	100	ug/kg
79-01-6	Trichloroethene	ND	100	ug/kg
75-69-4	Trichlorofluoromethane	ND	100	ug/kg
96-18-4	1,2,3-Trichloropropane	ND	250	ug/kg
95-63-6	1,2,4-Trimethylbenzene	ND	250	ug/kg
108-67-8	1,3,5-Trimethylbenzene	ND	250	ug/kg
75-01-4	Vinyl chloride	ND	100	ug/kg
	m,p-Xylene	ND	100	ug/kg
95-47-6	o-Xylene	ND	100	ug/kg
1330-20-7	Xylene (total)	ND	100	ug/kg

#### **Method Blank Summary**

Job Number: M96199

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample MSR660-MB	File ID R18522A.D	<b>DF</b> 1	<b>Analyzed</b> 12/02/10	<b>By</b> GK	<b>Prep Date</b> n/a	<b>Prep Batch</b> n/a	Analytical Batch MSR660

#### The QC reported here applies to the following samples:

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	103%	70-130%
2037-26-5	Toluene-D8	106%	70-130%
460-00-4	4-Bromofluorobenzene	104%	70-130%



# **Method Blank Summary**

Job Number: M96199

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA **Project:** 

Sample	File ID	DF	Analyzed	By	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
MSR663-MB	R18611A.D	1	12/07/10	GK	n/a	n/a	MSR663

The QC reported here applies to the following samples:

CAS No.	Compound	Result	RL	Units Q
67-64-1	Acetone	ND	250	ug/kg
71-43-2	Benzene	ND	25	ug/kg
108-86-1	Bromobenzene	ND	250	ug/kg
74-97-5	Bromochloromethane	ND	250	ug/kg
75-27-4	Bromodichloromethane	ND	100	ug/kg
75-25-2	Bromoform	ND	100	ug/kg
74-83-9	Bromomethane	ND	100	ug/kg
78-93-3	2-Butanone (MEK)	ND	250	ug/kg
104-51-8	n-Butylbenzene	ND	250	ug/kg
135-98-8	sec-Butylbenzene	ND	250	ug/kg
98-06-6	tert-Butylbenzene	ND	250	ug/kg
75-15-0	Carbon disulfide	ND	250	ug/kg
56-23-5	Carbon tetrachloride	ND	100	ug/kg
108-90-7	Chlorobenzene	ND	100	ug/kg
75-00-3	Chloroethane	ND	250	ug/kg
67-66-3	Chloroform	ND	100	ug/kg
74-87-3	Chloromethane	ND	250	ug/kg
95-49-8	o-Chlorotoluene	ND	250	ug/kg
106-43-4	p-Chlorotoluene	ND	250	ug/kg
108-20-3	Di-Isopropyl ether	ND	100	ug/kg
96-12-8	1,2-Dibromo-3-chloropropane	ND	250	ug/kg
124-48-1	Dibromochloromethane	ND	100	ug/kg
106-93-4	1,2-Dibromoethane	ND	100	ug/kg
95-50-1	1,2-Dichlorobenzene	ND	100	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	100	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	100	ug/kg
75-71-8	Dichlorodifluoromethane	ND	100	ug/kg
75-34-3	1,1-Dichloroethane	ND	100	ug/kg
107-06-2	1,2-Dichloroethane	ND	100	ug/kg
75-35-4	1,1-Dichloroethene	ND	100	ug/kg
156-59-2	cis-1,2-Dichloroethene	ND	100	ug/kg
156-60-5	trans-1,2-Dichloroethene	ND	100	ug/kg
78-87-5	1,2-Dichloropropane	ND	100	ug/kg
142-28-9	1,3-Dichloropropane	ND	250	ug/kg
594-20-7	2,2-Dichloropropane	ND	250	ug/kg
563-58-6	1,1-Dichloropropene	ND	250	ug/kg

# **Method Blank Summary**

Job Number: M96199

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA **Project:** 

Sample	File ID	DF	Analyzed	By	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
MSR663-MB	R18611A.D	1	12/07/10	GK	n/a	n/a	MSR663

The QC reported here applies to the following samples:

CAS No.	Compound	Result	RL	Units Q
10061-01-5	cis-1,3-Dichloropropene	ND	100	ug/kg
	trans-1,3-Dichloropropene	ND	100	ug/kg
123-91-1	1,4-Dioxane	ND	1300	ug/kg
60-29-7	Ethyl Ether	ND	250	ug/kg
100-41-4	Ethylbenzene	ND	100	ug/kg
87-68-3	Hexachlorobutadiene	ND	250	ug/kg
591-78-6	2-Hexanone	ND	250	ug/kg
98-82-8	Isopropylbenzene	ND	250	ug/kg
99-87-6	p-Isopropyltoluene	ND	250	ug/kg
1634-04-4	Methyl Tert Butyl Ether	ND	100	ug/kg
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	250	ug/kg
74-95-3	Methylene bromide	ND	250	ug/kg
75-09-2	Methylene chloride	ND	100	ug/kg
91-20-3	Naphthalene	ND	250	ug/kg
103-65-1	n-Propylbenzene	ND	250	ug/kg
100-42-5	Styrene	ND	250	ug/kg
994-05-8	tert-Amyl Methyl Ether	ND	250	ug/kg
637-92-3	tert-Butyl Ethyl Ether	ND	100	ug/kg
630-20-6	1,1,1,2-Tetrachloroethane	ND	250	ug/kg
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	ug/kg
127-18-4	Tetrachloroethene	ND	100	ug/kg
109-99-9	Tetrahydrofuran	ND	500	ug/kg
108-88-3	Toluene	ND	250	ug/kg
87-61-6	1,2,3-Trichlorobenzene	ND	250	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	250	ug/kg
71-55-6	1,1,1-Trichloroethane	ND	100	ug/kg
79-00-5	1,1,2-Trichloroethane	ND	100	ug/kg
79-01-6	Trichloroethene	ND	100	ug/kg
75-69-4	Trichlorofluoromethane	ND	100	ug/kg
96-18-4	1,2,3-Trichloropropane	ND	250	ug/kg
95-63-6	1,2,4-Trimethylbenzene	ND	250	ug/kg
108-67-8	1,3,5-Trimethylbenzene	ND	250	ug/kg
75-01-4	Vinyl chloride	ND	100	ug/kg
	m,p-Xylene	ND	100	ug/kg
95-47-6	o-Xylene	ND	100	ug/kg
1330-20-7	Xylene (total)	ND	100	ug/kg



# 1.2

# **Method Blank Summary**

Job Number: M96199

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSR663-MB	R18611A.D	1	12/07/10	GK	n/a	n/a	MSR663

#### The QC reported here applies to the following samples:

CAS No.	<b>Surrogate Recoveries</b>	Limits	
1868-53-7	Dibromofluoromethane	114%	70-130%
2037-26-5	Toluene-D8	114%	70-130%
460-00-4	4-Bromofluorobenzene	111%	70-130%

# Blank Spike/Blank Spike Duplicate Summary

Job Number: M96199

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSR660-BS	R18519A.D	1	12/02/10	GK	n/a	n/a	MSR660
MSR660-BSD	R18520A.D	1	12/02/10	GK	n/a	n/a	MSR660

The QC reported here applies to the following samples:

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	2500	2160	86	1950	78	10	70-130/25
71-43-2	Benzene	2500	2610	104	2690	108	3	70-130/25
108-86-1	Bromobenzene	2500	2740	110	2840	114	4	70-130/25
74-97-5	Bromochloromethane	2500	2670	107	2740	110	3	70-130/25
75-27-4	Bromodichloromethane	2500	2760	110	2810	112	2	70-130/25
75-25-2	Bromoform	2500	2610	104	2700	108	3	70-130/25
74-83-9	Bromomethane	2500	2300	92	2460	98	7	70-130/25
78-93-3	2-Butanone (MEK)	2500	2290	92	2180	87	5	70-130/25
104-51-8	n-Butylbenzene	2500	2600	104	2720	109	5	70-130/25
135-98-8	sec-Butylbenzene	2500	2650	106	2770	111	4	70-130/25
98-06-6	tert-Butylbenzene	2500	2690	108	2780	111	3	70-130/25
75-15-0	Carbon disulfide	2500	2490	100	2630	105	5	70-130/25
56-23-5	Carbon tetrachloride	2500	2660	106	2750	110	3	70-130/25
108-90-7	Chlorobenzene	2500	2840	114	2980	119	5	70-130/25
75-00-3	Chloroethane	2500	2240	90	2410	96	7	70-130/25
67-66-3	Chloroform	2500	2600	104	2640	106	2	70-130/25
74-87-3	Chloromethane	2500	1960	78	2100	84	7	70-130/25
95-49-8	o-Chlorotoluene	2500	2640	106	2760	110	4	70-130/25
106-43-4	p-Chlorotoluene	2500	2700	108	2800	112	4	70-130/25
108-20-3	Di-Isopropyl ether	2500	2360	94	2420	97	3	70-130/25
96-12-8	1,2-Dibromo-3-chloropropane	2500	2370	95	2450	98	3	70-130/25
124-48-1	Dibromochloromethane	2500	3000	120	3040	122	1	70-130/25
106-93-4	1,2-Dibromoethane	2500	2770	111	2830	113	2	70-130/25
95-50-1	1,2-Dichlorobenzene	2500	2750	110	2840	114	3	70-130/25
541-73-1	1,3-Dichlorobenzene	2500	2760	110	2870	115	4	70-130/25
106-46-7	1,4-Dichlorobenzene	2500	2750	110	2850	114	4	70-130/25
75-71-8	Dichlorodifluoromethane	2500	1850	74	1990	80	7	70-130/25
75-34-3	1,1-Dichloroethane	2500	2470	99	2560	102	4	70-130/25
107-06-2	1,2-Dichloroethane	2500	2600	104	2670	107	3	70-130/25
75-35-4	1,1-Dichloroethene	2500	2500	100	2580	103	3	70-130/25
156-59-2	cis-1,2-Dichloroethene	2500	2510	100	2610	104	4	70-130/25
156-60-5	trans-1,2-Dichloroethene	2500	2550	102	2660	106	4	70-130/25
78-87-5	1,2-Dichloropropane	2500	2550	102	2630	105	3	70-130/25
142-28-9	1,3-Dichloropropane	2500	2690	108	2750	110	2	70-130/25
594-20-7	2,2-Dichloropropane	2500	2640	106	2740	110	4	70-130/25
563-58-6	1,1-Dichloropropene	2500	2560	102	2660	106	4	70-130/25

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**Method:** SW846 8260B

# Blank Spike/Blank Spike Duplicate Summary

**Job Number:** M96199

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	<b>Prep Date</b>	Prep Batch	<b>Analytical Batch</b>
MSR660-BS	R18519A.D	1	12/02/10	GK	n/a	n/a	MSR660
MSR660-BSD	R18520A.D	1	12/02/10	GK	n/a	n/a	MSR660

The QC reported here applies to the following samples:

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	2500	2800	112	2880	115	3	70-130/25
	trans-1,3-Dichloropropene	2500	3010	120	3080	123	2	70-130/25
123-91-1	1,4-Dioxane	12500	11600	93	12300	98	6	70-130/25
60-29-7	Ethyl Ether	2500	2420	97	2480	99	2	70-130/25
100-41-4	Ethylbenzene	2500	2760	110	2880	115	4	70-130/25
87-68-3	Hexachlorobutadiene	2500	2810	112	2900	116	3	70-130/25
591-78-6	2-Hexanone	2500	2100	84	1990	80	5	70-130/25
98-82-8	Isopropylbenzene	2500	3090	124	3240	130	5	70-130/25
99-87-6	p-Isopropyltoluene	2500	2710	108	2840	114	5	70-130/25
1634-04-4	Methyl Tert Butyl Ether	2500	2380	95	2440	98	2	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	2500	2080	83	2110	84	1	70-130/25
74-95-3	Methylene bromide	2500	2660	106	2710	108	2	70-130/25
75-09-2	Methylene chloride	2500	2560	102	2610	104	2	70-130/25
91-20-3	Naphthalene	2500	2360	94	2530	101	7	70-130/25
103-65-1	n-Propylbenzene	2500	2630	105	2770	111	5	70-130/25
100-42-5	Styrene	2500	2970	119	3110	124	5	70-130/25
994-05-8	tert-Amyl Methyl Ether	2500	2480	99	2560	102	3	70-130/25
637-92-3	tert-Butyl Ethyl Ether	2500	2470	99	2520	101	2	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	2500	2920	117	3050	122	4	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	2500	2520	101	2600	104	3	70-130/25
127-18-4	Tetrachloroethene	2500	2820	113	3000	120	6	70-130/25
109-99-9	Tetrahydrofuran	2500	2100	84	2090	84	0	70-130/25
108-88-3	Toluene	2500	2650	106	2750	110	4	70-130/25
87-61-6	1,2,3-Trichlorobenzene	2500	2490	100	2660	106	7	70-130/25
120-82-1	1,2,4-Trichlorobenzene	2500	2710	108	2870	115	6	70-130/25
71-55-6	1,1,1-Trichloroethane	2500	2620	105	2740	110	4	70-130/25
79-00-5	1,1,2-Trichloroethane	2500	2590	104	2600	104	0	70-130/25
79-01-6	Trichloroethene	2500	2550	102	2660	106	4	70-130/25
75-69-4	Trichlorofluoromethane	2500	2370	95	2510	100	6	70-130/25
96-18-4	1,2,3-Trichloropropane	2500	2540	102	2560	102	1	70-130/25
95-63-6	1,2,4-Trimethylbenzene	2500	2710	108	2830	113	4	70-130/25
108-67-8	1,3,5-Trimethylbenzene	2500	2710	108	2810	112	4	70-130/25
75-01-4	Vinyl chloride	2500	2340	94	2560	102	9	70-130/25
	m,p-Xylene	5000	5620	112	5840	117	4	70-130/25
95-47-6	o-Xylene	2500	2830	113	2950	118	4	70-130/25
1330-20-7	Xylene (total)	7500	8460	113	8790	117	4	70-130/25

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**Method:** SW846 8260B

Job Number: M96199

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Blank Spike/Blank Spike Duplicate Summary

MSR660-BS R18	e <b>ID DF</b> 8519A.D 1 8520A.D 1	<b>Analyzed</b> 12/02/10 12/02/10	By GK GK	Prep Date n/a n/a	Prep Batch n/a n/a	Analytical Batch MSR660 MSR660
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#### The QC reported here applies to the following samples:

CAS No.	<b>Surrogate Recoveries</b>	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	105%	108%	70-130%
2037-26-5	Toluene-D8	104%	109%	70-130%
460-00-4	4-Bromofluorobenzene	106%	108%	70-130%



**Method:** SW846 8260B

# Blank Spike/Blank Spike Duplicate Summary

Job Number: M96199

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	<b>Prep Date</b>	Prep Batch	Analytical Batch
MSR663-BS	R18608A.D	1	12/07/10	GK	n/a	n/a	MSR663
MSR663-BSD	R18609A.D	1	12/07/10	GK	n/a	n/a	MSR663

The QC reported here applies to the following samples:

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	2500	2410	96	2160	86	11	70-130/25
71-43-2	Benzene	2500	2740	110	2850	114	4	70-130/25
108-86-1	Bromobenzene	2500	2910	116	2980	119	2	70-130/25
74-97-5	Bromochloromethane	2500	2840	114	2870	115	1	70-130/25
75-27-4	Bromodichloromethane	2500	2950	118	3040	122	3	70-130/25
75-25-2	Bromoform	2500	2900	116	2880	115	1	70-130/25
74-83-9	Bromomethane	2500	2500	100	2590	104	4	70-130/25
78-93-3	2-Butanone (MEK)	2500	2550	102	2490	100	2	70-130/25
104-51-8	n-Butylbenzene	2500	2810	112	2890	116	3	70-130/25
135-98-8	sec-Butylbenzene	2500	2850	114	2950	118	3	70-130/25
98-06-6	tert-Butylbenzene	2500	2920	117	3020	121	3	70-130/25
75-15-0	Carbon disulfide	2500	2770	111	2840	114	2	70-130/25
56-23-5	Carbon tetrachloride	2500	3190	128	3280	131* a	3	70-130/25
108-90-7	Chlorobenzene	2500	3020	121	3080	123	2	70-130/25
75-00-3	Chloroethane	2500	2430	97	2560	102	5	70-130/25
67-66-3	Chloroform	2500	2770	111	2820	113	2	70-130/25
74-87-3	Chloromethane	2500	2150	86	2180	87	1	70-130/25
95-49-8	o-Chlorotoluene	2500	2760	110	2880	115	4	70-130/25
106-43-4	p-Chlorotoluene	2500	2840	114	2930	117	3	70-130/25
108-20-3	Di-Isopropyl ether	2500	2400	96	2430	97	1	70-130/25
96-12-8	1,2-Dibromo-3-chloropropane	2500	2560	102	2590	104	1	70-130/25
124-48-1	Dibromochloromethane	2500	3250	130	3290	132* a	1	70-130/25
106-93-4	1,2-Dibromoethane	2500	2950	118	2960	118	0	70-130/25
95-50-1	1,2-Dichlorobenzene	2500	2920	117	2960	118	1	70-130/25
541-73-1	1,3-Dichlorobenzene	2500	2910	116	2970	119	2	70-130/25
106-46-7	1,4-Dichlorobenzene	2500	2900	116	2960	118	2	70-130/25
75-71-8	Dichlorodifluoromethane	2500	2700	108	2730	109	1	70-130/25
75-34-3	1,1-Dichloroethane	2500	2620	105	2670	107	2	70-130/25
107-06-2	1,2-Dichloroethane	2500	2860	114	2900	116	1	70-130/25
75-35-4	1,1-Dichloroethene	2500	2790	112	2860	114	2	70-130/25
156-59-2	cis-1,2-Dichloroethene	2500	2630	105	2690	108	2	70-130/25
156-60-5	trans-1,2-Dichloroethene	2500	2700	108	2800	112	4	70-130/25
78-87-5	1,2-Dichloropropane	2500	2600	104	2660	106	2	70-130/25
142-28-9	1,3-Dichloropropane	2500	2840	114	2840	114	0	70-130/25
594-20-7	2,2-Dichloropropane	2500	2950	118	3030	121	3	70-130/25
563-58-6	1,1-Dichloropropene	2500	2850	114	2960	118	4	70-130/25

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**Method:** SW846 8260B

# Blank Spike/Blank Spike Duplicate Summary

**Job Number:** M96199

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

File ID	DF	Analyzed	By	Prep Date	Prep Batch	<b>Analytical Batch</b>
R18608A.D	1	12/07/10	GK	n/a	n/a	MSR663
R18609A.D	1	12/07/10	GK	n/a	n/a	MSR663
	R18608A.D	<b>File ID DF</b> R18608A.D 1 R18609A.D 1	R18608A.D 1 12/07/10	R18608A.D 1 12/07/10 GK	R18608A.D 1 12/07/10 GK n/a	R18608A.D 1 12/07/10 GK n/a n/a

The QC reported here applies to the following samples:

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	2500	2910	116	3010	120	3	70-130/25
	trans-1,3-Dichloropropene	2500	3200	128	3250	130	2	70-130/25
123-91-1	1,4-Dioxane	12500	11600	93	12700	102	9	70-130/25
60-29-7	Ethyl Ether	2500	2530	101	2570	103	2	70-130/25
100-41-4	Ethylbenzene	2500	2930	117	2990	120	2	70-130/25
87-68-3	Hexachlorobutadiene	2500	3290	132* a	3390	136* a	3	70-130/25
591-78-6	2-Hexanone	2500	2190	88	2070	83	6	70-130/25
98-82-8	Isopropylbenzene	2500	3290	132* a	3430	137* a	4	70-130/25
99-87-6	p-Isopropyltoluene	2500	2930	117	3010	120	3	70-130/25
1634-04-4	Methyl Tert Butyl Ether	2500	2550	102	2540	102	0	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	2500	2140	86	2170	87	1	70-130/25
74-95-3	Methylene bromide	2500	2900	116	2950	118	2	70-130/25
75-09-2	Methylene chloride	2500	2660	106	2760	110	4	70-130/25
91-20-3	Naphthalene	2500	2670	107	2740	110	3	70-130/25
103-65-1	n-Propylbenzene	2500	2790	112	2910	116	4	70-130/25
100-42-5	Styrene	2500	3080	123	3180	127	3	70-130/25
994-05-8	tert-Amyl Methyl Ether	2500	2640	106	2690	108	2	70-130/25
637-92-3	tert-Butyl Ethyl Ether	2500	2580	103	2590	104	0	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	2500	3190	128	3240	130	2	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	2500	2660	106	2690	108	1	70-130/25
127-18-4	Tetrachloroethene	2500	3210	128	3290	132* a	2	70-130/25
109-99-9	Tetrahydrofuran	2500	2080	83	2060	82	1	70-130/25
108-88-3	Toluene	2500	2800	112	2930	117	5	70-130/25
87-61-6	1,2,3-Trichlorobenzene	2500	2870	115	2930	117	2	70-130/25
120-82-1	1,2,4-Trichlorobenzene	2500	3000	120	3060	122	2	70-130/25
71-55-6	1,1,1-Trichloroethane	2500	3040	122	3100	124	2	70-130/25
79-00-5	1,1,2-Trichloroethane	2500	2690	108	2710	108	1	70-130/25
79-01-6	Trichloroethene	2500	2800	112	2910	116	4	70-130/25
75-69-4	Trichlorofluoromethane	2500	2980	119	3030	121	2	70-130/25
96-18-4	1,2,3-Trichloropropane	2500	2610	104	2690	108	3	70-130/25
95-63-6	1,2,4-Trimethylbenzene	2500	2890	116	2980	119	3	70-130/25
108-67-8	1,3,5-Trimethylbenzene	2500	2910	116	2980	119	2	70-130/25
75-01-4	Vinyl chloride	2500	2990	120	2920	117	2	70-130/25
	m,p-Xylene	5000	5920	118	6100	122	3	70-130/25
95-47-6	o-Xylene	2500	2960	118	3050	122	3	70-130/25
1330-20-7	Xylene (total)	7500	8880	118	9160	122	3	70-130/25

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**Method:** SW846 8260B

# Blank Spike/Blank Spike Duplicate Summary

**Job Number:** M96199

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample MSR663-BS MSR663-BSD	<b>File ID</b> R18608A.D R18609A.D	<b>Analyzed</b> 12/07/10 12/07/10	By GK GK	Prep Date n/a n/a	Prep Batch n/a n/a	Analytical Batch MSR663 MSR663

The QC reported here applies to the following samples:

M96199-4, M96199-5

CAS No.	<b>Surrogate Recoveries</b>	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	114%	117%	70-130%
2037-26-5	Toluene-D8	113%	117%	70-130%
460-00-4	4-Bromofluorobenzene	111%	115%	70-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

**Method:** SW846 8260B

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96199

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	<b>Analytical Batch</b>
M96199-5MS	R18621.D	1	12/07/10	GK	n/a	n/a	MSR663
M96199-5MSD	R18622.D	1	12/07/10	GK	n/a	n/a	MSR663
M96199-5	R18620.D	1	12/07/10	GK	n/a	n/a	MSR663

The QC reported here applies to the following samples:

CAS No.	Compound	M96199 ug/kg	Q-5	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		2760	2090	76	1650	60* a	24	70-130/30
71-43-2	Benzene	20.4		2760	3010	108	3150	114	5	70-130/30
108-86-1	Bromobenzene	ND		2760	3100	112	3220	117	4	70-130/30
74-97-5	Bromochloromethane	ND		2760	2990	108	3140	114	5	70-130/30
75-27-4	Bromodichloromethane	ND		2760	3180	115	3250	118	2	70-130/30
75-25-2	Bromoform	ND		2760	3080	112	3130	114	2	70-130/30
74-83-9	Bromomethane	ND		2760	2820	102	2960	107	5	70-130/30
78-93-3	2-Butanone (MEK)	ND		2760	2390	87	2020	73	17	70-130/30
104-51-8	n-Butylbenzene	ND		2760	3030	110	3170	115	5	70-130/30
135-98-8	sec-Butylbenzene	ND		2760	3080	112	3250	118	5	70-130/30
98-06-6	tert-Butylbenzene	ND		2760	3130	114	3290	119	5	70-130/30
75-15-0	Carbon disulfide	ND		2760	2980	108	3210	116	7	70-130/30
56-23-5	Carbon tetrachloride	ND		2760	3510	127	3610	131* a	3	70-130/30
108-90-7	Chlorobenzene	ND		2760	3270	119	3380	123	3	70-130/30
75-00-3	Chloroethane	ND		2760	2730	99	2930	106	7	70-130/30
67-66-3	Chloroform	ND		2760	2990	108	3100	112	4	70-130/30
74-87-3	Chloromethane	ND		2760	2310	84	2560	93	10	70-130/30
95-49-8	o-Chlorotoluene	ND		2760	2980	108	3110	113	4	70-130/30
106-43-4	p-Chlorotoluene	ND		2760	3050	111	3180	115	4	70-130/30
108-20-3	Di-Isopropyl ether	ND		2760	2580	94	2690	98	4	70-130/30
96-12-8	1,2-Dibromo-3-chloropropane	ND		2760	2780	101	2840	103	2	70-130/30
124-48-1	Dibromochloromethane	ND		2760	3480	126	3530	128	1	70-130/30
106-93-4	1,2-Dibromoethane	ND		2760	3160	115	3240	118	3	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		2760	3130	114	3230	117	3	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		2760	3130	114	3240	118	3	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		2760	3080	112	3230	117	5	70-130/30
75-71-8	Dichlorodifluoromethane	ND		2760	2900	105	3080	112	6	70-130/30
75-34-3	1,1-Dichloroethane	ND		2760	2840	103	2990	108	5	70-130/30
107-06-2	1,2-Dichloroethane	ND		2760	3100	112	3170	115	2	70-130/30
75-35-4	1,1-Dichloroethene	ND		2760	3010	109	3190	116	6	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		2760	2850	103	2980	108	4	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		2760	2930	106	3130	114	7	70-130/30
78-87-5	1,2-Dichloropropane	ND		2760	2820	102	2950	107	5	70-130/30
142-28-9	1,3-Dichloropropane	ND		2760	3040	110	3060	111	1	70-130/30
594-20-7	2,2-Dichloropropane	ND		2760	3140	114	3290	119	5	70-130/30
563-58-6	1,1-Dichloropropene	ND		2760	3110	113	3300	120	6	70-130/30

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**Method:** SW846 8260B

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96199

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
M96199-5MS	R18621.D	1	12/07/10	GK	n/a	n/a	MSR663
M96199-5MSD	R18622.D	1	12/07/10	GK	n/a	n/a	MSR663
M96199-5	R18620.D	1	12/07/10	GK	n/a	n/a	MSR663

The QC reported here applies to the following samples:

CAS No.	Compound	M96199 ug/kg	0-5 Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		2760	3160	115	3250	118	3	70-130/30
	trans-1,3-Dichloropropene	ND		2760	3430	124	3520	128	3	70-130/30
123-91-1	1,4-Dioxane	ND		13800	12800	93	13400	97	5	70-130/30
60-29-7	Ethyl Ether	ND		2760	2700	98	2810	102	4	70-130/30
100-41-4	Ethylbenzene	ND		2760	3190	116	3290	119	3	70-130/30
87-68-3	Hexachlorobutadiene	ND		2760	3440	125	3650	132* a	6	70-130/30
591-78-6	2-Hexanone	ND		2760	2050	74	1790	65* a	14	70-130/30
98-82-8	Isopropylbenzene	ND		2760	3590	130	3780	137* a	5	70-130/30
99-87-6	p-Isopropyltoluene	ND		2760	3160	115	3310	120	5	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		2760	2740	99	2840	103	4	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		2760	2300	83	2290	83	0	70-130/30
74-95-3	Methylene bromide	ND		2760	3100	112	3160	115	2	70-130/30
75-09-2	Methylene chloride	ND		2760	2910	106	3060	111	5	70-130/30
91-20-3	Naphthalene	136		2760	2820	97	3040	105	8	70-130/30
103-65-1	n-Propylbenzene	ND		2760	3020	110	3170	115	5	70-130/30
100-42-5	Styrene	ND		2760	3350	122	3450	125	3	70-130/30
994-05-8	tert-Amyl Methyl Ether	ND		2760	2850	103	2950	107	3	70-130/30
637-92-3	tert-Butyl Ethyl Ether	ND		2760	2790	101	2880	104	3	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		2760	3460	126	3550	129	3	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		2760	2830	103	2880	104	2	70-130/30
127-18-4	Tetrachloroethene	ND		2760	3470	126	3590	130	3	70-130/30
109-99-9	Tetrahydrofuran	ND		2760	2290	83	2270	82	1	70-130/30
108-88-3	Toluene	38.8		2760	3100	111	3230	116	4	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		2760	2900	105	3130	114	8	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		2760	3160	115	3320	120	5	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		2760	3310	120	3440	125	4	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		2760	2970	108	3000	109	1	70-130/30
79-01-6	Trichloroethene	ND		2760	3070	111	3260	118	6	70-130/30
75-69-4	Trichlorofluoromethane	ND		2760	3280	119	3390	123	3	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		2760	2830	103	2860	104	1	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		2760	3110	113	3240	118	4	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		2760	3130	114	3270	119	4	70-130/30
75-01-4	Vinyl chloride	ND		2760	3610	131* a	3560	129	1	70-130/30
	m,p-Xylene	26.2		5510	6500	117	6730	122	3	70-130/30
95-47-6	o-Xylene	ND		2760	3270	119	3380	123	3	70-130/30
1330-20-7	Xylene (total)	26.2		8270	9760	118	10100	122	3	70-130/30

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**Method:** SW846 8260B

#### Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96199

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA **Project:** 

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
M96199-5MS	R18621.D	1	12/07/10	GK	n/a	n/a	MSR663
M96199-5MSD	R18622.D	1	12/07/10	GK	n/a	n/a	MSR663
M96199-5	R18620.D	1	12/07/10	GK	n/a	n/a	MSR663

The QC reported here applies to the following samples:

M96199-4, M96199-5

CAS No.	Surrogate Recoveries	MS	MSD	M96199-5	Limits
1868-53-7	Dibromofluoromethane	112%	118%	113%	70-130%
2037-26-5	Toluene-D8	112%	117%	111%	70-130%
460-00-4	4-Bromofluorobenzene	110%	113%	111%	70-130%

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.

# Volatile Internal Standard Area Summary

Job Number: M96199

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

 Check Std:
 MSR660-CC638
 Injection Date:
 12/02/10

 Lab File ID:
 R18518A.D
 Injection Time:
 12:31

**Instrument ID:** GCMSR **Method:** SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std Upper Limit <sup>a</sup> Lower Limit <sup>b</sup>	317337 634674 158669	9.11 9.61 8.61	438471 876942 219236	9.99 10.49 9.49	213609 427218 106805	13.25 13.75 12.75	271630 543260 135815	15.81 16.31 15.31	70844 141688 35422	6.69 7.19 6.19
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSR659-BS MSR660-BS MSR659-BSD MSR660-BSD MSR659-MB MSR660-MB ZZZZZZ ZZZZZZ ZZZZZZ ZZZZZZ ZZZZZZ ZZZZ	323761 323761 326531 326531 320474 309834 308007 288979 292632 281742 276989 280692 298804 278791 275729 269282 259199 278949 313591	9.11 9.11 9.11 9.11 9.11 9.11 9.11 9.11	448580 448580 452960 452960 431431 431431 420716 417124 389282 396284 386262 373731 391579 414733 372916 373855 365142 354139 383802 432061	9.99 9.99 9.99 9.99 9.99 9.99 9.99 9.9	215444 215444 216861 216861 199851 199851 196904 190501 183414 184999 181869 177297 194390 202598 176624 175041 170597 175258 184040 197362	13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25	273514 273514 254949 254949 245873 244896 235783 236336 227508 227356 244400 253326 225143 222768 220727 230731 252523 254520	15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81	73209 71480 71480 69783 67646 62355 64809 62158 59808 61853 64711 62074 59978 59562 54613 60003 67381	6.69 6.69 6.69 6.69 6.69 6.69 6.71 6.69 6.69 6.69 6.69 6.69 6.69 6.69 6.6
M96199-1 M96199-2 M96199-3	314456 305453 307978	9.11 9.11 9.11	430312 419568 416987	9.99 9.99 9.99	198722 193658 196637	13.25 13.25 13.25	255176 250982 254056	15.81 15.81 15.81		6.69 6.69 6.69

IS 1 = Pentafluorobenzene IS 2 = 1,4-Difluorobenzene IS 3 = Chlorobenzene-D5 IS 4 = 1,4-Dichlorobenzene-d4 IS 5 = Tert Butyl Alcohol-D9



<sup>(</sup>a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.

<sup>(</sup>b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

# Volatile Internal Standard Area Summary

Job Number: M96199

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Check Std:MSR659-CC637Injection Date:12/02/10Lab File ID:R18518.DInjection Time:12:31

**Instrument ID:** GCMSR **Method:** SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std Upper Limit <sup>a</sup> Lower Limit <sup>b</sup>	317337 634674 158669	9.11 9.61 8.61	438471 876942 219236	9.99 10.49 9.49	213609 427218 106805	13.25 13.75 12.75	271630 543260 135815	15.81 16.31 15.31	70844 141688 35422	6.69 7.19 6.19
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSR659-BS MSR660-BS MSR659-BSD MSR660-BSD MSR659-MB MSR660-MB ZZZZZZ ZZZZZZ ZZZZZZ ZZZZZZ ZZZZZZ ZZZZ	323761 323761 326531 326531 320474 320474 309834 308007 288979 292632 281742 276989 280692 298804 278791 275729 269282 259199 278949 313591	9.11 9.11 9.11 9.11 9.11 9.11 9.11 9.11	448580 448580 452960 452960 431431 431431 420716 417124 389282 396284 386262 373731 391579 414733 372916 373855 365142 354139 383802 432061	9.99 9.99 9.99 9.99 9.99 9.99 9.99 9.9	215444 215444 216861 216861 199851 199851 196904 190501 183414 184999 181869 177297 194390 202598 176624 175041 170597 175258 184040 197362	13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25	270095 270095 273514 273514 254949 254949 245873 244896 235783 236336 227508 227356 244400 253326 225143 222768 220727 230731 252523 254520	15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81	67646 62355 64809 62158 59808 61853 64711 62074 59978 59562 54613 60003	6.69 6.69 6.69 6.69 6.69 6.69 6.69 6.69
M96199-1 M96199-2 M96199-3	314456 305453 307978	9.11 9.11 9.11	430312 419568 416987	9.99 9.99 9.99	198722 193658 196637	13.25 13.25 13.25 13.25	255176 250982 254056	15.81 15.81 15.81	66840 65568	6.69 6.69 6.69

IS 1 = Pentafluorobenzene IS 2 = 1,4-Difluorobenzene IS 3 = Chlorobenzene-D5 IS 4 = 1,4-Dichlorobenzene-d4 IS 5 = Tert Butyl Alcohol-D9



<sup>(</sup>a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.

<sup>(</sup>b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

#### **Volatile Internal Standard Area Summary**

Job Number: M96199

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

 Check Std:
 MSR663-CC638
 Injection Date:
 12/07/10

 Lab File ID:
 R18607A.D
 Injection Time:
 11:42

**Instrument ID:** GCMSR **Method:** SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std Upper Limit <sup>a</sup> Lower Limit <sup>b</sup>	245633 491266 122817	9.11 9.61 8.61	334396 668792 167198	9.98 10.48 9.48	163836 327672 81918	13.25 13.75 12.75	209360 418720 104680		57565 115130 28783	6.69 7.19 6.19
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSR663-BS MSR663-BSD MSR663-MB ZZZZZZ ZZZZZZ ZZZZZZ ZZZZZZ ZZZZZZ ZZZZ	253675 263012 242830 241428 242379 248034 244906 255050 257923 252139 255355 254353 256007 262654 242399 248803 265404 261529 254737	9.11 9.11 9.11 9.11 9.12 9.11 9.12 9.11 9.12 9.11 9.11	349518 358034 323578 320487 321117 327937 322125 338140 341496 333503 346440 343345 351908 361449 326304 337716 356400 350386 345434	9.99 9.99 9.99 9.99 9.99 9.99 9.99 9.9	168530 173848 149093 149117 149308 152646 152153 155352 157408 156694 160157 158674 170707 175747 157304 160511 166624 161029 157067	13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25	215284 219560 195619 198728 199531 201398 200450 204976 207045 206389 211754 204410 220648 225201 215343 219898 216708 210522 207079	15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81	57282 60138 62710 59382 58768 57477 58299 59499 58454 61397 60801 61946 66027 63374 62685	6.69 6.69 6.69 6.69 6.69 6.69 6.69 6.69
ZZZZZZ ZZZZZZ ZZZZZZ ZZZZZZ ZZZZZZ	252366 254895 257016 259611 46991°	9.11 9.11 9.11 9.11 9.12	339362 344973 340928 349349 44006 <sup>c</sup>	9.99 9.99 9.99 9.99 10.00	158197 161294 159441 161216 25167°	13.25 13.25 13.25 13.25 13.26	208732 210656 208644 214770 20151c	15.81 15.81 15.81 15.81 15.82		6.69 6.69 6.69 6.69 6.67

IS 1 = Pentafluorobenzene
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5
IS 4 = 1,4-Dichlorobenzene-d4
IS 5 = Tert Butyl Alcohol-D9

- (a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
- (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
- (c) Outside control limits due to possible matrix interference. Confirmed by reanalysis.



#### **Volatile Surrogate Recovery Summary**

Job Number: M96199

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Method: SW846 8260B Matrix: SO

#### Samples and QC shown here apply to the above method

Lab	Lab			
Sample ID	File ID	S1	<b>S2</b>	S3
M96199-1	R18541.D	103.0	104.0	101.0
M96199-2	R18542.D	110.0	113.0	111.0
M96199-3	R18543.D	108.0	111.0	108.0
M96199-4	R18619.D	112.0	110.0	107.0
M96199-5	R18620.D	113.0	111.0	111.0
M96199-6	R18540.D	111.0	111.0	110.0
M96199-5MS	R18621.D	112.0	112.0	110.0
M96199-5MSD	R18622.D	118.0	117.0	113.0
MSR660-BS	R18519A.D	105.0	104.0	106.0
MSR660-BSD	R18520A.D	108.0	109.0	108.0
MSR660-MB	R18522A.D	103.0	106.0	104.0
MSR663-BS	R18608A.D	114.0	113.0	111.0
MSR663-BSD	R18609A.D	117.0	117.0	115.0
MSR663-MB	R18611A.D	114.0	114.0	111.0

Surrogate Recovery Compounds Limits

 $\mathbf{S1} = \text{Dibromofluoromethane}$  70-130%  $\mathbf{S2} = \text{Toluene-D8}$  70-130%  $\mathbf{S3} = \text{4-Bromofluorobenzene}$  70-130%





#### GC/MS Semi-volatiles

QC Data Summaries

#### Includes the following where applicable:

- · Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries



**Method:** SW846 8270C

#### **Method Blank Summary**

Job Number: M96199

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA **Project:** 

Sample	File ID	DF	Analyzed	Ву	Prep Date	Prep Batch	Analytical Batch
OP23515-MB	S19763.D	1	12/06/10	PR	12/03/10	OP23515	MSS816

#### The QC reported here applies to the following samples:

CAS No.	Compound	Result	RL	Units Q
65-85-0	Benzoic acid	ND	500	ug/kg
95-57-8	2-Chlorophenol	ND	250	ug/kg
59-50-7	4-Chloro-3-methyl phenol	ND	500	ug/kg
120-83-2	2,4-Dichlorophenol	ND	500	ug/kg
105-67-9	2,4-Dimethylphenol	ND	500	ug/kg
51-28-5	2,4-Dinitrophenol	ND	990	ug/kg
95-48-7	2-Methylphenol	ND	500	ug/kg
	3&4-Methylphenol	ND	500	ug/kg
88-75-5	2-Nitrophenol	ND	500	ug/kg
100-02-7	4-Nitrophenol	ND	990	ug/kg
87-86-5	Pentachlorophenol	ND	500	ug/kg
108-95-2	Phenol	ND	250	ug/kg
95-95-4	2,4,5-Trichlorophenol	ND	500	ug/kg
88-06-2	2,4,6-Trichlorophenol	ND	500	ug/kg
83-32-9	Acenaphthene	ND	250	ug/kg
208-96-8	Acenaphthylene	ND	250	ug/kg
98-86-2	Acetophenone	ND	500	ug/kg
62-53-3	Aniline	ND	500	ug/kg
120-12-7	Anthracene	ND	250	ug/kg
56-55-3	Benzo(a)anthracene	ND	250	ug/kg
50-32-8	Benzo(a)pyrene	ND	250	ug/kg
205-99-2	Benzo(b)fluoranthene	ND	250	ug/kg
191-24-2	Benzo(g,h,i)perylene	ND	250	ug/kg
207-08-9	Benzo(k)fluoranthene	ND	250	ug/kg
101-55-3	4-Bromophenyl phenyl ether	ND	250	ug/kg
85-68-7	Butyl benzyl phthalate	ND	250	ug/kg
91-58-7	2-Chloronaphthalene	ND	250	ug/kg
106-47-8	4-Chloroaniline	ND	500	ug/kg
218-01-9	Chrysene	ND	250	ug/kg
111-91-1	bis(2-Chloroethoxy)methane	ND	250	ug/kg
111-44-4	bis(2-Chloroethyl)ether	ND	250	ug/kg
108-60-1	bis(2-Chloroisopropyl)ether	ND	250	ug/kg
95-50-1	1,2-Dichlorobenzene	ND	250	ug/kg
122-66-7	1,2-Diphenylhydrazine	ND	250	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	250	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	250	ug/kg



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**Method:** SW846 8270C

#### **Method Blank Summary**

Job Number: M96199

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample OP23515-MB	<b>File ID</b> S19763.D	<b>DF</b> 1	<b>Analyzed</b> 12/06/10	<b>By</b> PR	<b>Prep Date</b> 12/03/10	Prep Batch OP23515	Analytical Batch MSS816

#### The QC reported here applies to the following samples:

CAS No.	Compound	Result	RL	Units Q
121-14-2	2,4-Dinitrotoluene	ND	500	ug/kg
606-20-2	2,6-Dinitrotoluene	ND	500	ug/kg
91-94-1	3,3'-Dichlorobenzidine	ND	250	ug/kg
53-70-3	Dibenzo(a,h)anthracene	ND	250	ug/kg
132-64-9	Dibenzofuran	ND	250	ug/kg
84-74-2	Di-n-butyl phthalate	ND	250	ug/kg
117-84-0	Di-n-octyl phthalate	ND	250	ug/kg
84-66-2	Diethyl phthalate	ND	250	ug/kg
131-11-3	Dimethyl phthalate	ND	250	ug/kg
117-81-7	bis(2-Ethylhexyl)phthalate	ND	250	ug/kg
206-44-0	Fluoranthene	ND	250	ug/kg
86-73-7	Fluorene	ND	250	ug/kg
118-74-1	Hexachlorobenzene	ND	250	ug/kg
87-68-3	Hexachlorobutadiene	ND	250	ug/kg
77-47-4	Hexachlorocyclopentadiene	ND	500	ug/kg
67-72-1	Hexachloroethane	ND	250	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	ND	250	ug/kg
78-59-1	Isophorone	ND	250	ug/kg
91-57-6	2-Methylnaphthalene	ND	250	ug/kg
91-20-3	Naphthalene	ND	250	ug/kg
98-95-3	Nitrobenzene	ND	250	ug/kg
621-64-7	N-Nitroso-di-n-propylamine	ND	250	ug/kg
86-30-6	N-Nitrosodiphenylamine	ND	250	ug/kg
85-01-8	Phenanthrene	ND	250	ug/kg
129-00-0	Pyrene	ND	250	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	250	ug/kg

CAS No.	<b>Surrogate Recoveries</b>		Limits		
367-12-4	2-Fluorophenol	60%	30-130%		
4165-62-2	Phenol-d5	63%	30-130%		
118-79-6	2,4,6-Tribromophenol	64%	30-130%		
4165-60-0	Nitrobenzene-d5	62%	30-130%		
321-60-8	2-Fluorobiphenyl	67%	30-130%		
1718-51-0	Terphenyl-d14	86%	30-130%		



**Method:** SW846 8270C

# Blank Spike/Blank Spike Duplicate Summary

**Job Number:** M96199

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	<b>Analytical Batch</b>
OP23515-BS	S19764.D	1	12/06/10	PR	12/03/10	OP23515	MSS816
OP23515-BSD	S19765.D	1	12/06/10	PR	12/03/10	OP23515	MSS816

#### The QC reported here applies to the following samples:

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic acid	4970	653	13* a	596	12* a	9	30-130/30
95-57-8	2-Chlorophenol	4970	3480	70	3150	63	10	30-130/30
59-50-7	4-Chloro-3-methyl phenol	4970	4090	82	3710	75	10	30-130/30
120-83-2	2,4-Dichlorophenol	4970	3870	78	3490	70	10	30-130/30
105-67-9	2,4-Dimethylphenol	4970	3430	69	3180	64	8	30-130/30
51-28-5	2,4-Dinitrophenol	4970	1520	31	1290	26* a	16	30-130/30
95-48-7	2-Methylphenol	4970	3560	72	3280	66	8	30-130/30
	3&4-Methylphenol	9940	7370	74	6790	68	8	30-130/30
88-75-5	2-Nitrophenol	4970	3690	74	3350	67	10	30-130/30
100-02-7	4-Nitrophenol	4970	3710	75	3360	68	10	30-130/30
87-86-5	Pentachlorophenol	4970	3210	65	2890	58	10	30-130/30
108-95-2	Phenol	4970	3350	67	3070	62	9	30-130/30
95-95-4	2,4,5-Trichlorophenol	4970	3950	79	3570	72	10	30-130/30
88-06-2	2,4,6-Trichlorophenol	4970	3900	78	3580	72	9	30-130/30
83-32-9	Acenaphthene	2490	1960	79	1790	72	9	40-140/30
208-96-8	Acenaphthylene	2490	1450	58	1340	54	8	40-140/30
98-86-2	Acetophenone	2490	1710	69	1560	63	9	40-140/30
62-53-3	Aniline	2490	1450	58	1320	53	9	40-140/30
120-12-7	Anthracene	2490	2060	83	1900	76	8	40-140/30
56-55-3	Benzo(a)anthracene	2490	2430	98	2250	91	8	40-140/30
50-32-8	Benzo(a)pyrene	2490	2240	90	2010	81	11	40-140/30
205-99-2	Benzo(b)fluoranthene	2490	2360	95	2170	87	8	40-140/30
191-24-2	Benzo(g,h,i)perylene	2490	2210	89	2060	83	7	40-140/30
207-08-9	Benzo(k)fluoranthene	2490	2290	92	2090	84	9	40-140/30
101-55-3	4-Bromophenyl phenyl ether	2490	2070	83	1900	76	9	40-140/30
85-68-7	Butyl benzyl phthalate	2490	2550	103	2310	93	10	40-140/30
91-58-7	2-Chloronaphthalene	2490	1890	76	1750	70	8	40-140/30
106-47-8	4-Chloroaniline	2490	1610	65	1470	59	9	40-140/30
218-01-9	Chrysene	2490	2520	101	2320	93	8	40-140/30
111-91-1	bis(2-Chloroethoxy)methane	2490	1780	72	1610	65	10	40-140/30
111-44-4	bis(2-Chloroethyl)ether	2490	1680	68	1510	61	11	40-140/30
108-60-1	bis(2-Chloroisopropyl)ether	2490	1600	64	1450	58	10	40-140/30
95-50-1	1,2-Dichlorobenzene	2490	1660	67	1490	60	11	40-140/30
122-66-7	1,2-Diphenylhydrazine	2490	1860	75	1690	68	10	40-140/30
541-73-1	1,3-Dichlorobenzene	2490	1600	64	1440	58	11	40-140/30
106-46-7	1,4-Dichlorobenzene	2490	1620	65	1460	59	10	40-140/30

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**Method:** SW846 8270C

#### Blank Spike/Blank Spike Duplicate Summary

**Job Number:** M96199

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	$\mathbf{B}\mathbf{y}$	Prep Date	Prep Batch	<b>Analytical Batch</b>
OP23515-BS	S19764.D	1	12/06/10	PR	12/03/10	OP23515	MSS816
OP23515-BSD	S19765.D	1	12/06/10	PR	12/03/10	OP23515	MSS816

#### The QC reported here applies to the following samples:

		Spike	BSP	BSP	BSD	BSD		Limits
CAS No.	Compound	ug/kg	ug/kg	<b>%</b>	ug/kg	<b>%</b>	RPD	Rec/RPD
121-14-2	2,4-Dinitrotoluene	2490	2170	87	1960	79	10	40-140/30
	,							
606-20-2	2,6-Dinitrotoluene	2490	2090	84	1900	76	10	40-140/30
91-94-1	3,3'-Dichlorobenzidine	2490	2040	82	1890	76	8	40-140/30
53-70-3	Dibenzo(a,h)anthracene	2490	2440	98	2310	93	5	40-140/30
132-64-9	Dibenzofuran	2490	1950	78	1780	72	9	40-140/30
84-74-2	Di-n-butyl phthalate	2490	2380	96	2180	88	9	40-140/30
117-84-0	Di-n-octyl phthalate	2490	3170	128	2760	111	14	40-140/30
84-66-2	Diethyl phthalate	2490	2190	88	1990	80	10	40-140/30
131-11-3	Dimethyl phthalate	2490	2100	85	1900	76	10	40-140/30
117-81-7	bis(2-Ethylhexyl)phthalate	2490	2660	107	2430	98	9	40-140/30
206-44-0	Fluoranthene	2490	2230	90	2080	84	7	40-140/30
86-73-7	Fluorene	2490	2050	82	1890	76	8	40-140/30
118-74-1	Hexachlorobenzene	2490	2070	83	1890	76	9	40-140/30
87-68-3	Hexachlorobutadiene	2490	1720	69	1540	62	11	40-140/30
77-47-4	Hexachlorocyclopentadiene	2490	902	36* a	788	32* a	13	40-140/30
67-72-1	Hexachloroethane	2490	1570	63	1410	57	11	40-140/30
193-39-5	Indeno(1,2,3-cd)pyrene	2490	2410	97	2250	91	7	40-140/30
78-59-1	Isophorone	2490	1780	72	1630	66	9	40-140/30
91-57-6	2-Methylnaphthalene	2490	1820	73	1670	67	9	40-140/30
91-20-3	Naphthalene	2490	1780	72	1620	65	9	40-140/30
98-95-3	Nitrobenzene	2490	1640	66	1470	59	11	40-140/30
621-64-7	N-Nitroso-di-n-propylamine	2490	1860	75	1690	68	10	40-140/30
86-30-6	N-Nitrosodiphenylamine	2490	2110	85	1940	78	8	40-140/30
85-01-8	Phenanthrene	2490	1970	79	1800	72	9	40-140/30
129-00-0	Pyrene	2490	2300	93	2060	83	11	40-140/30
120-82-1	1,2,4-Trichlorobenzene	2490	1720	69	1560	63	10	40-140/30
120-02-1	1,2, <del>7</del> -111011010001120110	4 <del>4</del> 90	1/20	U)	1500	05	10	<del>1</del> 0-1 <del>4</del> 0/30

CAS No.	<b>Surrogate Recoveries</b>	BSP	BSD	Limits
367-12-4 4165-62-2	2-Fluorophenol Phenol-d5	69% 72%	62% 66%	30-130% 30-130%
118-79-6	2,4,6-Tribromophenol	84%	77%	30-130%
4165-60-0	Nitrobenzene-d5	70%	63%	30-130%
321-60-8	2-Fluorobiphenyl	76%	70%	30-130%
1718-51-0	Terphenyl-d14	96%	86%	30-130%



# 6.2.1

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**Method:** SW846 8270C

#### Blank Spike/Blank Spike Duplicate Summary

**Job Number:** M96199

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

				Analytical Batch
12/06/10	PR	12/03/10	OP23515	MSS816
12/06/10	PR	12/03/10	OP23515	MSS816

The QC reported here applies to the following samples:

M96199-1, M96199-2, M96199-3, M96199-4, M96199-5, M96199-6

(a) Outside control limits. Blank Spike meets program technical requirements.

**Method:** SW846 8270C

# Matrix Spike/Matrix Spike Duplicate Summary

**Job Number:** M96199

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	<b>Analytical Batch</b>
OP23515-MS	S19766.D	1	12/06/10	PR	12/03/10	OP23515	MSS816
OP23515-MSD	S19767.D	1	12/06/10	PR	12/03/10	OP23515	MSS816
M96225-8	S19781.D	1	12/07/10	PR	12/03/10	OP23515	MSS816

The QC reported here applies to the following samples:

		M96225-8		Spike	MS	MS	MSD	MSD		Limits
CAS No.	Compound	ug/kg	Q	ug/kg	ug/kg	%	ug/kg	<b>%</b>	RPD	Rec/RPD
65-85-0	Benzoic acid	ND		6610	2310	35	1850	28* a	22	30-130/30
95-57-8	2-Chlorophenol	ND		6610	4170	63	3700	56	12	30-130/30
59-50-7	4-Chloro-3-methyl phenol	ND		6610	5010	76	4340	66	14	30-130/30
120-83-2	2,4-Dichlorophenol	ND		6610	4720	71	4220	64	11	30-130/30
105-67-9	2,4-Dimethylphenol	167		6610	4500	66	4200	61	7	30-130/30
51-28-5	2,4-Dinitrophenol	ND		6610	1080	16* a	ND	0* a	200* a	30-130/30
95-48-7	2-Methylphenol	98.2		6610	4510	67	4040	60	11	30-130/30
	3&4-Methylphenol	727		13200	9480	66	8920	62	6	30-130/30
88-75-5	2-Nitrophenol	ND		6610	2520	38	2090	32	19	30-130/30
100-02-7	4-Nitrophenol	ND		6610	4530	69	4380	67	3	30-130/30
87-86-5	Pentachlorophenol	ND		6610	5030	76	4200	64	18	30-130/30
108-95-2	Phenol	ND		6610	4160	63	4050	62	3	30-130/30
95-95-4	2,4,5-Trichlorophenol	ND		6610	5160	78	4570	69	12	30-130/30
88-06-2	2,4,6-Trichlorophenol	ND		6610	5010	76	4560	69	9	30-130/30
83-32-9	Acenaphthene	3830		3300	5810	60	10300	197* b	56* c	40-140/30
208-96-8	Acenaphthylene	471		3300	2160	51	5780	161* b	91* c	40-140/30
98-86-2	Acetophenone	ND		3300	2030	61	1810	55	11	40-140/30
62-53-3	Aniline	ND		3300	1460	44	1310	40	11	40-140/30
120-12-7	Anthracene	4020		3300	6290	69	27400	710* b	125* c	40-140/30
56-55-3	Benzo(a)anthracene	5400		3300	7390	60	36200	936* b	132* c	40-140/30
50-32-8	Benzo(a)pyrene	3260		3300	5160	58	20400	521* b	119* <sup>c</sup>	40-140/30
205-99-2	Benzo(b)fluoranthene	3300		3300	4640	41	25500	675* b	138* c	40-140/30
191-24-2	Benzo(g,h,i)perylene	998		3300	4750	114	8590	231* b	58* c	40-140/30
207-08-9	Benzo(k)fluoranthene	2590		3300	4470	57	6590	122	38* c	40-140/30
101-55-3	4-Bromophenyl phenyl ether	ND		3300	2620	79	2410	73	8	40-140/30
85-68-7	Butyl benzyl phthalate	ND		3300	3140	95	2920	89	7	40-140/30
91-58-7	2-Chloronaphthalene	ND		3300	2260	68	2070	63	9	40-140/30
106-47-8	4-Chloroaniline	ND		3300	1600	48	1650	50	3	40-140/30
218-01-9	Chrysene	5550		3300	7510	59	32400	816* b	125* c	40-140/30
111-91-1	bis(2-Chloroethoxy)methane	ND		3300	2070	63	1830	56	12	40-140/30
111-44-4	bis(2-Chloroethyl)ether	ND		3300	2060	62	1750	53	16	40-140/30
108-60-1	bis(2-Chloroisopropyl)ether	ND		3300	1900	58	1620	49	16	40-140/30
95-50-1	1,2-Dichlorobenzene	ND		3300	1920	58	1660	50	15	40-140/30
122-66-7	1,2-Diphenylhydrazine	ND		3300	2150	65	2680	81	22	40-140/30
541-73-1	1,3-Dichlorobenzene	ND		3300	1860	56	1530	46	19	40-140/30
106-46-7	1,4-Dichlorobenzene	ND		3300	1880	57	1600	49	16	40-140/30

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**Method:** SW846 8270C

#### Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96199

321-60-8

2-Fluorobiphenyl

1718-51-0 Terphenyl-d14

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	<b>Prep Date</b>	Prep Batch	<b>Analytical Batch</b>
OP23515-MS	S19766.D	1	12/06/10	PR	12/03/10	OP23515	MSS816
OP23515-MSD	S19767.D	1	12/06/10	PR	12/03/10	OP23515	MSS816
M96225-8	S19781.D	1	12/07/10	PR	12/03/10	OP23515	MSS816

#### The QC reported here applies to the following samples:

M96199-1, M96199-2, M96199-3, M96199-4, M96199-5, M96199-6

		M96225	5-8	Spike	MS	MS	MSD	MSD		Limits
CAS No.	Compound	ug/kg	Q	ug/kg	ug/kg	%	ug/kg	<b>%</b>	RPD	Rec/RPD
121-14-2	2,4-Dinitrotoluene	ND		3300	1770	54	1680	51	5	40-140/30
606-20-2	2,6-Dinitrotoluene	ND		3300	1890	57	1640	50	14	40-140/30
91-94-1	3,3'-Dichlorobenzidine	ND		3300	ND	0* b	1270	39* b	200* c	40-140/30
53-70-3	Dibenzo(a,h)anthracene	542		3300	3700	96	6190	172* b	50* c	40-140/30
132-64-9	Dibenzofuran	2010		3300	4200	66	9510	228* b	77* <sup>c</sup>	40-140/30
84-74-2	Di-n-butyl phthalate	ND		3300	2830	86	2720	83	4	40-140/30
117-84-0	Di-n-octyl phthalate	ND		3300	2990	91	2270	69	27	40-140/30
84-66-2	Diethyl phthalate	ND		3300	2680	81	2380	72	12	40-140/30
131-11-3	Dimethyl phthalate	ND		3300	2490	75	2240	68	11	40-140/30
117-81-7	bis(2-Ethylhexyl)phthalate	ND		3300	3300	100	2390	73	32* c	40-140/30
206-44-0	Fluoranthene	10500		3300	10900	12* d	52900		<sup>d</sup> 132* <sup>d</sup>	40-140/30
86-73-7	Fluorene	3610		3300	6000	72	17200	413* b	97* c	40-140/30
118-74-1	Hexachlorobenzene	ND		3300	2490	75	2300	70	8	40-140/30
87-68-3	Hexachlorobutadiene	ND		3300	2010	61	1750	53	14	40-140/30
77-47-4	Hexachlorocyclopentadiene	ND		3300	ND	0* a	ND	0* a	nc	40-140/30
67-72-1	Hexachloroethane	ND		3300	527	16* b	392	12* b	29	40-140/30
193-39-5	Indeno(1,2,3-cd)pyrene	1150		3300	4570	104	9400	251* b	69* c	40-140/30
78-59-1	Isophorone	ND		3300	2110	64	1910	58	10	40-140/30
91-57-6	2-Methylnaphthalene	2010		3300	3920	58	6700	143* b	52* c	40-140/30
91-20-3	Naphthalene	5360		3300	6450	33* b	6900	47	7	40-140/30
98-95-3	Nitrobenzene	ND		3300	1740	53	1530	46	13	40-140/30
621-64-7	N-Nitroso-di-n-propylamine	ND		3300	2140	65	1920	58	11	40-140/30
86-30-6	N-Nitrosodiphenylamine	ND		3300	2910	88	4180	127	36* c	40-140/30
85-01-8	Phenanthrene	12700		3300	14900	67	60500		<sup>1</sup> 121* <sup>c</sup>	40-140/30
129-00-0	Pyrene	7840		3300	11700	117	45300	1138*	<sup>1</sup> 118* <sup>c</sup>	40-140/30
120-82-1	1,2,4-Trichlorobenzene	ND		3300	2040	62	1800	55	13	40-140/30
CAS No.	<b>Surrogate Recoveries</b>	MS		MSD	MS	06225-8	Limits			
367-12-4	2-Fluorophenol	62%		55%	619	%	30-1309	6		
4165-62-2	Phenol-d5	64%		56%	629	%	30-1309	6		
118-79-6	2,4,6-Tribromophenol	82%		77%	779	%	30-1309	6		
4165-60-0	Nitrobenzene-d5	56%		51%	569	%	30-1309	6		

63%

75%

70%

61%

30-130%

30-130%

68%

84%

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**Method:** SW846 8270C

#### Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96199

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	Ву	Prep Date	Prep Batch	Analytical Batch
OP23515-MS	S19766.D	1	12/06/10	PR	12/03/10	OP23515	MSS816
OP23515-MSD	S19767.D	1	12/06/10	PR	12/03/10	OP23515	MSS816
M96225-8	S19781.D	1	12/07/10	PR	12/03/10	OP23515	MSS816

#### The QC reported here applies to the following samples:

- (a) Outside control limits. Blank Spike meets program technical requirements.
- (b) Outside control limits due to possible matrix interference. Refer to Blank Spike.
- (c) High RPD due to possible matrix interference and/or sample non-homogeneity.
- (d) Outside control limits due to high level in sample relative to spike amount.

#### Semivolatile Internal Standard Area Summary

**Job Number:** M96199

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

 Check Std:
 MSS816-CC805
 Injection Date:
 12/06/10

 Lab File ID:
 S19759.D
 Injection Time:
 18:39

 Instrument ID:
 CCMSS
 Methods
 SW246-85

**Instrument ID:** GCMSS Method: SW846 8270C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	322489	6.08	1256165	7.45	646294	9.69	1060346	11.91	987196	16.28	919151	18.52
Upper Limit <sup>a</sup>	644978	6.58	2512330	7.95	1292588	10.19	2120692	12.41	1974392	16.78	1838302	19.02
Lower Limit b	161245	5.58	628083	6.95	323147	9.19	530173	11.41	493598	15.78	459576	18.02
Lab	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
ZZZZZZ	340673	6.08	1364807	7.45	675111	9.69	1087964	11.90	1014064	16.27	923460	18.52
OP23509-LB	379914	6.08	1585362	7.45	790025	9.69	1239902	11.90	1132605	16.27	1017663	18.52
ZZZZZZ	292899	6.08	1235436	7.45	620799	9.69	975647	11.90	825876	16.27	703727	18.52
OP23515-MB	398327	6.08	1689629	7.45	857569	9.69	1325625	11.90	1241886	16.27	1005164	18.52
OP23515-BS	402764	6.08	1586588	7.45	805282	9.69	1298048	11.90	1136922	16.27	955170	18.52
OP23515-BSD	390651	6.08	1539718	7.45	778704	9.69	1243198	11.90	1125802	16.27	983844	18.52
OP23515-MS	428153	6.08	1699122	7.45	837421	9.69	1282463	11.91	985056	16.29	1088928	18.54
OP23515-MSD	377663	6.08	1495614	7.45	717064	9.69	1071504	11.93	1070231	16.36	1502243	18.62
M96199-1	451065	6.08	1875350	7.45	896768	9.69	1290843	11.92	1156321	16.30	1439875	18.56
M96199-2	395834	6.08	1629310	7.45	782701	9.69	1159708	11.91	1189954	16.30	1379257	18.56
M96199-3	411292	6.08	1684834	7.45	786925	9.69	1143251	11.92	1244710	16.31	1293265	18.57
M96199-4	416072	6.08	1724205	7.45	823265	9.69	1195569	11.92	1244021		1441865	18.54
M96199-5	397842	6.08	1531859	7.45	782504	9.69	1200439	11.91	1234265	16.29	1415889	18.54
M96199-6	453939	6.08	1858791	7.46	840997	9.69	1191468	11.92	942195	16.31	1429479	18.56
ZZZZZZ	326939	6.08	1381301	7.45	685978	9.69	1084523	11.92	1189560	16.32	1278510	18.57
ZZZZZZ	403960	6.08	1654348	7.45	767608	9.69	1125063		1179223		1255055	18.56
ZZZZZZ	314863	6.08	1301468	7.45	646407	9.69	1016545	11.91	1052293	16.30	1153066	18.55
ZZZZZZ	426461	6.08	1717899		792666	9.69	1159318	11.92	1153544		1246122	18.56
ZZZZZZ	387464	6.08	1562360		734552	9.69	1094293		1219035		1142038	
ZZZZZZ	395148	6.08	1632914		770297	9.69	1121464	11.92	1247355		1270905	18.54
ZZZZZZ	448418	6.08	1836022		861336	9.69	1229516	11.92	1332448		1294976	18.56
M96225-8	431072	6.08	1748528		802270	9.69	1143377		1250760		1261628	
M95397-50	346797	6.08	1454225	7.45	707354	9.69	1105851	11.91	980884	16.28	881437	18.53

**IS 1** = 1,4-Dichlorobenzene-d4

IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

- (a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
- (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.



#### Semivolatile Internal Standard Area Summary

Job Number: M96199

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Check Std:MSS818-CC805Injection Date:12/07/10Lab File ID:S19786.DInjection Time:13:20

**Instrument ID:** GCMSS **Method:** SW846 8270C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std Upper Limit <sup>a</sup> Lower Limit <sup>b</sup>	307796 615592 153898	6.07 6.57 5.57	1219821 2439642 609911	7.95	611674 1223348 305837	10.18	978838 1957676 489419	12.40	1887942		896277 1792554 448139	
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
M96199-1 ZZZZZZ	336899 325799	6.07 6.07	1411285 1382829		687713 696309	9.68 9.68	1081429 1105261			16.27 16.27	913836 967970	18.52 18.52

**IS 1** = 1,4-Dichlorobenzene-d4

IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.



# Semivolatile Surrogate Recovery Summary

Job Number: M96199

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Method: SW846 8270C Matrix: SO

#### Samples and QC shown here apply to the above method

Lab	Lab						
Sample ID	File ID	S1	<b>S2</b>	<b>S3</b>	<b>S4</b>	<b>S5</b>	<b>S6</b>
M96199-1	S19787.D	74.0	77.0	82.0	72.0	88.0	110.0
M96199-1	S19768.D	66.0	67.0	90.0	65.0	74.0	83.0
M96199-2	S19769.D	62.0	63.0	82.0	56.0	68.0	69.0
M96199-3	S19770.D	56.0	57.0	79.0	57.0	64.0	65.0
M96199-4	S19771.D	60.0	61.0	84.0	54.0	67.0	70.0
M96199-5	S19772.D	57.0	59.0	80.0	60.0	66.0	73.0
M96199-6	S19773.D	62.0	64.0	86.0	56.0	73.0	91.0
OP23515-BS	S19764.D	69.0	72.0	84.0	70.0	76.0	96.0
OP23515-BSD	S19765.D	62.0	66.0	77.0	63.0	70.0	86.0
OP23515-MB	S19763.D	60.0	63.0	64.0	62.0	67.0	86.0
OP23515-MS	S19766.D	62.0	64.0	82.0	56.0	68.0	84.0
OP23515-MSD	S19767.D	55.0	56.0	77.0	51.0	63.0	75.0

# Surrogate Recovery Compounds Limits

S1 =	2-Fluorophenol	30-130%
S2 =	Phenol-d5	30-130%
S3 =	2,4,6-Tribromophenol	30-130%
S4 =	Nitrobenzene-d5	30-130%
S5 =	2-Fluorobiphenyl	30-130%
S6 =	Terphenyl-d14	30-130%





#### GC Volatiles

# QC Data Summaries

# Includes the following where applicable:

- · Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries



Method: MADEP VPH REV 1.1

# 7.1.1

#### **Method Blank Summary**

Job Number: M96199

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample GBH926-MB	File ID BH17783.D	<b>DF</b> 1	<b>Analyzed</b> 12/06/10	<b>By</b> AP	Prep Date n/a	Prep Batch n/a	Analytical Batch GBH926

#### The QC reported here applies to the following samples:

CAS No.	Compound	Result	RL	Units Q
	C5- C8 Aliphatics (Unadj.)	ND	5000	ug/kg
	C9- C12 Aliphatics (Unadj.)	ND	5000	ug/kg
	C9- C10 Aromatics (Unadj.)	ND	5000	ug/kg
	C5- C8 Aliphatics	ND	5000	ug/kg
	C9- C12 Aliphatics	ND	5000	ug/kg
	•			

CAS No.	Surrogate Recoveries		Limits
615-59-8	2,5-Dibromotoluene	82%	70-130%
615-59-8	2,5-Dibromotoluene	77%	70-130%



Method: MADEP VPH REV 1.1

## Blank Spike/Blank Spike Duplicate Summary

**Job Number:** M96199

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBH926-BSP	BH17784.D	12/06/10	AP	n/a	n/a	GBH926
GBH926-BSD	BH17785.D	12/06/10	AP	n/a	n/a	GBH926

### The QC reported here applies to the following samples:

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
	C5- C8 Aliphatics (Unadj.)	7500	5550	74	5590	75	1	70-130/25
	C9- C12 Aliphatics (Unadj.)	7500	8220	110	8300	111	1	70-130/25
	C9- C10 Aromatics (Unadj.)	2500	2520	101	2550	102	1	70-130/25

CAS No.	<b>Surrogate Recoveries</b>	BSP	BSD	Limits
615-59-8	2,5-Dibromotoluene	101%	107%	70-130%
615-59-8	2,5-Dibromotoluene	96%	102%	70-130%



### **Volatile Surrogate Recovery Summary**

Job Number: M96199

Account: HALEYALD Haley & Aldrich

Project: Former Energy International Parcel, MA

**Method:** MADEP VPH REV 1.1 Matrix: SO

### Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	<b>S1</b> a	<b>S1</b> b
M96199-1	BH17786.D	108.0	101.0
M96199-2	BH17787.D	100.0	93.0
M96199-3	BH17788.D	103.0	96.0
M96199-4	BH17789.D	114.0	107.0
M96199-5	BH17790.D	95.0	88.0
M96199-6	BH17791.D	106.0	97.0
GBH926-BSD	BH17785.D	107.0	102.0
GBH926-BSP	BH17784.D	101.0	96.0
GBH926-MB	BH17783.D	82.0	77.0

Surrogate Recovery Compounds Limits

S1 = 2,5-Dibromotoluene 70-130%

(a) Recovery from GC signal #1

(b) Recovery from GC signal #2





## GC Semi-volatiles

## QC Data Summaries

## Includes the following where applicable:

- · Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries



Method: MADEP EPH REV 1.1

### **Method Blank Summary**

Job Number: M96199

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample OP23505-MB	File ID BI2592B.D	<b>DF</b> 1	<b>Analyzed</b> 12/07/10	By JD	<b>Prep Date</b> 12/02/10	Prep Batch OP23505	<b>Analytical Batch</b> GBI98

### The QC reported here applies to the following samples:

CAS No.	Compound	Result	RL	Units Q
	C11-C22 Aromatics (Unadj.)	ND	18000	ug/kg
	C9-C18 Aliphatics	ND	9000	ug/kg
	C19-C36 Aliphatics	ND	9000	ug/kg
	C11-C22 Aromatics	ND	18000	ug/kg

CAS No.	<b>Surrogate Recoveries</b>		Limits
84-15-1	o-Terphenyl	74%	40-140%
321-60-8	2-Fluorobiphenyl	85%	40-140%
580-13-2	2-Bromonaphthalene	51%	40-140%
3386-33-2	1-Chlorooctadecane	52%	40-140%



Method: MADEP EPH REV 1.1

### Blank Spike/Blank Spike Duplicate Summary

Job Number: M96199

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample OP23505-BS OP23505-BSD	<b>File ID</b> BI2590A.D BI2591A.D	<b>DF</b> 1 1	<b>Analyzed</b> 12/07/10 12/07/10	By JD JD	Prep Date 12/02/10 12/02/10	Prep Batch OP23505 OP23505	Analytical Batch GBI98 GBI98

### The QC reported here applies to the following samples:

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
	C11-C22 Aromatics (Unadj.)	71900	68400	95 a	76100	106 a	11 a	40-140/25
	C9-C18 Aliphatics	27000	12200	45	11000	41	10	40-140/25
	C19-C36 Aliphatics	36000	20400	57	19900	55	2	40-140/25

CAS No.	<b>Surrogate Recoveries</b>	BSP	BSD	Limits
84-15-1 321-60-8 580-13-2	o-Terphenyl 2-Fluorobiphenyl 2-Bromonaphthalene	76% 85% 64%	86% 97% 67%	40-140% 40-140% 40-140%
3386-33-2	1-Chlorooctadecane	44%	44%	40-140%

Sample	Compound	Col #1	Col #2	Breakthrough Limit		
OP23505-BS	2-Methylnaphthalene	2430	270	10.0%*	5.0	
OP23505-BS	Naphthalene	2060	381	15.6%*	5.0	
OP23505-BSD	2-Methylnaphthalene	2470	456	15.6%*	5.0	
OP23505-BSD	Naphthalene	2090	567	21.3%*	5.0	

<sup>(</sup>a) Aromatic breakthrough (naphthalene and/or 2-methylnaphthalene) exceeded 5% method limit. Results confirmed by refractionation.



Method: MADEP EPH REV 1.1

## Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96199

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP23505-MS	BJ69.D	1	12/04/10	KD	12/02/10	OP23505	GBJ2
OP23505-MSD	BJ70.D	1	12/04/10	KD	12/02/10	OP23505	GBJ2
M96199-5	BJ75.D	1	12/04/10	KD	12/02/10	OP23505	GBJ2

### The QC reported here applies to the following samples:

CAS No.	Compound	M96199-5 ug/kg Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
	C11-C22 Aromatics (Unadj.)	67400	77000	139000	93	167000	131	18	40-140/25
	C9-C18 Aliphatics	ND	28900	25200	87	22300	78	12	40-140/25
	C19-C36 Aliphatics	12000	38500	50500	100	40600	75	22	40-140/25

CAS No.	Surrogate Recoveries	MS	MSD	M96199-5	Limits
84-15-1	o-Terphenyl	112%	128%	121%	40-140%
321-60-8	2-Fluorobiphenyl	93%	94%	93%	40-140%
580-13-2	2-Bromonaphthalene	85%	89%	87%	40-140%
3386-33-2	1-Chlorooctadecane	68%	62%	74%	40-140%



### Semivolatile Surrogate Recovery Summary

Job Number: M96199

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Method: MADEP EPH REV 1.1 Matrix: SO

### Samples and QC shown here apply to the above method

Lab	Lab				
Sample ID	File ID	<b>S1</b> <sup>a</sup>	S2 a	S3 a	<b>S4</b> <sup>b</sup>
M96199-1	BJ71.D	181.0* <sup>c</sup>	89.0	87.0	61.0
M96199-2	BG23601.D	78.0	91.0	92.0	17.0* <sup>d</sup>
M96199-3	BG23602.D	63.0	97.0	80.0	26.0* d
M96199-4	BJ74.D	103.0	87.0	82.0	61.0
M96199-5	BJ75.D	121.0	93.0	87.0	74.0
M96199-6	BJ76.D	118.0	88.0	85.0	64.0
OP23505-BS	BI2590A.D	76.0	85.0	64.0	44.0
OP23505-BSD	BI2591A.D	86.0	97.0	67.0	44.0
OP23505-MB	BI2592B.D	74.0	85.0	51.0	52.0
OP23505-MS	BJ69.D	112.0	93.0	85.0	68.0
OP23505-MSD	BJ70.D	128.0	94.0	89.0	62.0

Surrogate Recovery Compounds Limits

 S1 = o-Terphenyl
 40-140%

 S2 = 2-Fluorobiphenyl
 40-140%

 S3 = 2-Bromonaphthalene
 40-140%

 S4 = 1-Chlorooctadecane
 40-140%

- (a) Recovery from GC signal #1
- (b) Recovery from GC signal #2
- (c) Outside control limits due to possible matrix interference.
- (d) Outside control limits due to possible matrix interference. Confirmed by refractionation.





## Metals Analysis

QC Data Summaries

### Includes the following where applicable:

- · Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries



#### BLANK RESULTS SUMMARY Part 2 - Method Blanks

# Login Number: M96199 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16325 Matrix Type: SOLID Methods: SW846 6010C

Units: mg/kg

Prep Date:

12/01/10

Trep bacc.					12/01/10
Metal	RL	IDL	MDL	MB raw	final
Aluminum	20	1.5	1.5		
Antimony	1.0	.09	.12	-0.020	<1.0
Arsenic	1.0	.1	.13	-0.040	<1.0
Barium	5.0	.042	.2	0.18	<5.0
Beryllium	0.40	.014	.015	0.0	<0.40
Boron	10	.033	.12		
Cadmium	0.40	.011	.017	-0.010	<0.40
Calcium	500	2.3	2.3		
Chromium	1.0	.047	.047	0.020	<1.0
Cobalt	5.0	.017	.017		
Copper	2.5	.086	.15		
Gold	5.0	.16	.16		
Iron	10	.39	.54		
Lead	1.0	.15	.15	-0.020	<1.0
Magnesium	500	3.7	4.2		
Manganese	1.5	.011	.092		
Molybdenum	10	.021	.026		
Nickel	4.0	.021	.028	-0.010	<4.0
Palladium	5.0	.24	.24		
Platinum	5.0	.73	.73		
Potassium	500	2.9	3.6		
Selenium	1.0	.11	.19	0.15	<1.0
Silicon	10	.12	.47		
Silver	0.50	.06	.06	0.010	<0.50
Sodium	500	1.5	4.2		
Strontium	1.0	.013	.015		
Thallium	1.0	.07	.12	0.090	<1.0
Tin	10	.036	.036		
Titanium	5.0	.057	.057		
Tungsten	10	.48	.57		
Vanadium	1.0	.073	.073	-0.020	<1.0
Zinc	2.0	.024	.28	0.17	<2.0

Associated samples MP16325: M96199-1, M96199-2, M96199-3, M96199-4, M96199-5, M96199-6



#### BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: M96199
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16325 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

# Login Number: M96199 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16325 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date: 12/01/10 12/01/10

Prep Date:	Prep Date:							12/01/10		
Metal	M96199-5 Original		Spikelot MPICP	% Rec	QC Limits	M96199-5 Original		RPD	QC Limits	
Aluminum										
Antimony	2.4	17.3	41.9	35.6 (a)	75-125	2.4	1.4	52.6 (c)	0-20	
Arsenic	18.9	56.7	41.9	90.3	75-125	18.9	18.3	3.2	0-20	
Barium	198	273	168	44.8 (a)	75-125	198	115	53.0 (c)	0-20	
Beryllium	0.65	35.1	41.9	82.3	75-125	0.65	0.63	3.1	0-20	
Boron										
Cadmium	0.54	40.0	41.9	94.2	75-125	0.54	0.51	5.7	0-20	
Calcium										
Chromium	17.6	50.8	41.9	79.3	75-125	17.6	15.6	12.0	0-20	
Cobalt										
Copper										
Gold										
Iron										
Lead	912	965	83.8	63.3 (b)	75-125	912	940	3.0	0-20	
Magnesium										
Manganese										
Molybdenum										
Nickel	15.4	52.6	41.9	88.8	75-125	15.4	15.2	1.3	0-20	
Palladium										
Platinum										
Potassium										
Selenium	0.97	37.4	41.9	87.0	75-125	0.97	1.1	12.6	0-20	
Silicon										
Silver	0.30	16.2	16.8	94.9	75-125	0.30	0.28	6.9	0-20	
Sodium										
Strontium										
Thallium	0.0	35.7	41.9	85.2	75-125	0.0	0.14	200.0(d)	0-20	
Tin										
Titanium										
Tungsten										
Vanadium	24.6	63.7	41.9	93.4	75-125	24.6	26.1	5.9	0-20	
Zinc	145	183	41.9	90.7	75-125	145	143	1.4	0-20	
Aggagiated ga	mmlag MD16	22E • MO61	00 1 106	100 2 MO	6100 2 1	106100 4	M06100 E	M06100 6		

Associated samples MP16325: M96199-1, M96199-2, M96199-3, M96199-4, M96199-5, M96199-6



Login Number: M96199
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16325 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date:

Metal

 ${\tt Results} \, < \, {\tt IDL} \, \, {\tt are } \, \, {\tt shown} \, \, {\tt as } \, \, {\tt zero} \, \, \, {\tt for } \, \, {\tt calculation} \, \, {\tt purposes} \, \,$ 

- (\*) Outside of QC limits
- (N) Matrix Spike Rec. outside of QC limits

- (a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity. Post spike is not within acceptable range.
- (b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- (c) High RPD due to possible matrix interference and/or sample non-homogeneity.
- (d) RPD acceptable due to low duplicate and sample concentrations.

Login Number: M96199
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16325 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date: 12/01/10 12/01/10

Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	BSD Result	Spikelot MPICP	% Rec	BSD RPD	QC Limit
Aluminum									
Antimony	50.2	50	100.4	80-120	49.5	50	99.0	1.4	20
Arsenic	50.5	50	101.0	80-120	49.4	50	98.8	2.2	20
Barium	184	200	92.0	80-120	182	200	91.0	1.1	20
Beryllium	45.5	50	91.0	80-120	45.4	50	90.8	0.2	20
Boron									
Cadmium	51.8	50	103.6	80-120	50.8	50	101.6	1.9	20
Calcium									
Chromium	49.4	50	98.8	80-120	49.3	50	98.6	0.2	20
Cobalt									
Copper									
Gold									
Iron									
Lead	98.1	100	98.1	80-120	96.7	100	96.7	1.4	20
Magnesium									
Manganese									
Molybdenum									
Nickel	50.8	50	101.6	80-120	50.0	50	100.0	1.6	20
Palladium									
Platinum									
Potassium									
Selenium	50.7	50	101.4	80-120	49.9	50	99.8	1.6	20
Silicon									
Silver	20.6	20	103.0	80-120	20.8	20	104.0	1.0	20
Sodium									
Strontium									
Thallium	51.3	50	102.6	80-120	50.3	50	100.6	2.0	20
Tin									
Titanium									
Tungsten									
Vanadium	51.4	50	102.8	80-120	51.5	50	103.0	0.2	20
Zinc	50.2	50	100.4	80-120	49.2	50	98.4	2.0	20

Associated samples MP16325: M96199-1, M96199-2, M96199-3, M96199-4, M96199-5, M96199-6



Login Number: M96199
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16325 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

Login Number: M96199
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16325 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date: 12/01/10

TTCP Date:			12/01/10	
Metal	LCS Result	Spikelot MPLCS70		QC Limits
Aluminum				
Antimony	80.9	121	66.9	8-219
Arsenic	105	109	96.3	83-117
Barium	279	325	85.8	83-117
Beryllium	80.5	92.1	87.4	84-116
Boron				
Cadmium	111	110	100.9	81-119
Calcium				
Chromium	86.0	93.4	92.1	81-120
Cobalt				
Copper				
Gold				
Iron				
Lead	139	152	91.4	79-121
Magnesium				
Manganese				
Molybdenum				
Nickel	108	109	99.1	81-118
Palladium				
Platinum				
Potassium				
Selenium	201	207	97.1	79-120
Silicon				
Silver	52.3	51.9	100.8	66-134
Sodium				
Strontium				
Thallium	167	171	97.7	78-122
Tin				
Titanium				
Tungsten				
Vanadium	105	110	95.5	77-124
Zinc	279	299	93.3	82-118

Associated samples MP16325: M96199-1, M96199-2, M96199-3, M96199-4, M96199-5, M96199-6

Login Number: M96199
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16325 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested



### SERIAL DILUTION RESULTS SUMMARY

# Login Number: M96199 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16325 Methods: SW846 6010C Matrix Type: SOLID Units: ug/l

Prep Date: 12/01/10

Prep Date.			12/01/10	
Metal	M96199-5 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony	27.9	24.3	12.9 (a)	0-10
Arsenic	223	242	8.3	0-10
Barium	2350	2440	3.7	0-10
Beryllium	7.70	7.90	2.6	0-10
Boron				
Cadmium	6.40	6.60	3.1	0-10
Calcium				
Chromium	208	231	11.1 (b)	0-10
Cobalt				
Copper				
Gold				
Iron				
Lead	10800	11900	9.8	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel	183	203	11.2 (b)	0-10
Palladium				
Platinum				
Potassium				
Selenium	11.5	15.1	31.3 (a)	0-10
Silicon				
Silver	3.50	4.60	31.4 (a)	0-10
Sodium				
Strontium				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Tungsten				
Vanadium	291	316	8.7	0-10
Zinc	1720	1950	13.3 (b)	0-10

Associated samples MP16325: M96199-1, M96199-2, M96199-3, M96199-4, M96199-5, M96199-6

### SERIAL DILUTION RESULTS SUMMARY

Login Number: M96199
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16325 Methods: SW846 6010C Matrix Type: SOLID Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

- (a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- (b) Serial dilution indicates possible matrix interference.

c

### POST DIGESTATE SPIKE SUMMARY

Login Number: M96199
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

Prep Date: 12/01/10

Prep Date.									12/01/1	U
Metal	Sample ml	Final ml	M96199- Raw	5 Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limit:
Aluminum										
Antimony	9.9	10.1	27.9	27.34752	84.6	.1	5	49.50495	115.7	-
Arsenic										
Barium	9.9	10.1	2350	2303.465	5911	.1	470	4653.465	77.5	-
Beryllium										
Boron										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Gold										
Iron										
Lead										
Magnesium										
Manganese										
Molybdenum										
Nickel										
Palladium										
Platinum										
Potassium										
Selenium										
Silicon										
Silver										
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Tungsten										
Vanadium										
Zinc										

Associated samples MP16325: M96199-1, M96199-2, M96199-3, M96199-4, M96199-5, M96199-6

### POST DIGESTATE SPIKE SUMMARY

Login Number: M96199
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16325 Methods: SW846 6010C Matrix Type: SOLID Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (\*\*) Corr. sample result = Raw \* (sample volume / final volume) (anr) Analyte not requested

### BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: M96199 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16331 Methods: SW846 7471A Matrix Type: SOLID Units: mg/kg

Prep Date: 12/03/10

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.033	.0047	.0055	0.011	<0.033

Associated samples MP16331: M96199-1, M96199-2, M96199-3, M96199-4, M96199-5, M96199-6

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits  $\bar{\ }$ 

Login Number: M96199 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16331 Methods: SW846 7471A Matrix Type: SOLID Units: mg/kg

12/03/10 12/03/10 Prep Date:

Metal	M96199-5 Original	DUP	RPD	QC Limits	M96199-5 Original	MS	Spikelot HGRWS1	% Rec	QC Limits
Mercury	0.53	0.65	20.3 (a)	0-20	0.53	1.2	0.518	129.3(b)	75-125

Associated samples MP16331: M96199-1, M96199-2, M96199-3, M96199-4, M96199-5, M96199-6

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits

- (N) Matrix Spike Rec. outside of QC limits

- (a) High RPD due to possible matrix interference and/or sample non-homogeneity.
- (b) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.



Login Number: M96199 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16331 Methods: SW846 7471A Units: mg/kg Matrix Type: SOLID

12/03/10 12/03/10 Prep Date:

Metal	BSP Result	Spikelot HGRWS1	% Rec	QC Limits	BSD Result	Spikelot HGRWS1	% Rec	BSD RPD	QC Limit
Mercury	0.47	0.5	94.0	80-120	0.47	0.5	94.0	0.0	30

Associated samples MP16331: M96199-1, M96199-2, M96199-3, M96199-4, M96199-5, M96199-6

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits  $\bar{\ }$ 

Login Number: M96199
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16331 Methods: SW846 7471A Matrix Type: SOLID Units: mg/kg

Prep Date: 12/03/10

Associated samples MP16331: M96199-1, M96199-2, M96199-3, M96199-4, M96199-5, M96199-6

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits  $\bar{\ }$ 

(anr) Analyte not requested

\_\_\_\_

#### BLANK RESULTS SUMMARY Part 2 - Method Blanks

# Login Number: M96199 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16354 Methods: SW846 6010C Matrix Type: LEACHATE Units:  $\mbox{mg/l}$ 

Prep Date: 12/09/10

Metal	RL	IDL	MDL	MB raw	final
Aluminum	0.20	.015	.015		
Antimony	0.0060	.0009	.0012		
Arsenic	0.010	.001	.0019		
Barium	0.50	.00042	.0037		
Beryllium	0.0040	.00014	.0002		
Boron	0.10	.00033	.0015		
Cadmium	0.0040	.00011	.00012		
Calcium	5.0	.023	.039		
Chromium	0.010	.00047	.00053		
Cobalt	0.050	.00017	.00028		
Copper	0.025	.00086	.00086		
Gold	0.050	.0016	.0017		
Iron	0.10	.0039	.0041		
Lead	0.010	.0015	.0015	0.0013	<0.010
Magnesium	5.0	.037	.037		
Manganese	0.015	.00011	.0009		
Molybdenum	0.10	.00021	.00064		
Nickel	0.040	.00021	.0003		
Palladium	0.050	.0024	.0025		
Platinum	0.050	.0073	.0073		
Potassium	5.0	.029	.03		
Selenium	0.010	.0011	.0017		
Silicon	0.10	.0012	.0072		
Silver	0.0050	.0006	.0006		
Sodium	5.0	.015	.031		
Strontium	0.010	.00013	.00031		
Thallium	0.0050	.0007	.00074		
Tin	0.10	.00036	.00043		
Titanium	0.050	.00057	.00057		
Tungsten	0.10	.0048	.012		
Vanadium	0.010	.00073	.0011		
Zinc	0.10	.00024	.002		

Associated samples MP16354: M96199-1A, M96199-2A, M96199-3A, M96199-5A

\_\_\_\_\_

#### BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: M96199
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16354 Methods: SW846 6010C Matrix Type: LEACHATE Units:  $\mbox{mg/l}$ 

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

## Login Number: M96199 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

12/09/10

QC Batch ID: MP16354 Methods: SW846 6010C Matrix Type: LEACHATE Units:  $\mbox{mg/l}$ 

Prep Date:

Copper
Gold
Iron
Lead

Magnesium

Silicon Silver

Vanadium Zinc 0.56

anr

1.5

1.0

12/09/10

M96199-5A Spikelot M96199-5A QC QC Original MS MPICP Limits Original DUP RPD Limits Metal % Rec Aluminum Antimony Arsenic anr Barium anr Beryllium Boron Cadmium anr Calcium Chromium anr Cobalt

Manganese

Molybdenum

Nickel

Palladium

Platinum

Potassium

Selenium anr

94.0

75-125 0.56

0.56

0.0

0-20

Sodium
Strontium
Thallium
Tin
Titanium
Tungsten

Associated samples MP16354: M96199-1A, M96199-2A, M96199-3A, M96199-5A

Login Number: M96199 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16354 Methods: SW846 6010C Matrix Type: LEACHATE Units: mg/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

Login Number: M96199
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16354 Methods: SW846 6010C Matrix Type: LEACHATE Units:  $\mbox{mg/l}$ 

Prep Date: 12/09/10

Metal	M96289- Origina		Spikelot MPICP	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	anr				
Barium	anr				
Beryllium					
Boron					
Cadmium	anr				
Calcium					
Chromium	anr				
Cobalt					
Copper					
Gold					
Iron					
Lead	1.9	2.9	1.0	100.0	75-125
Magnesium					
Manganese					
Molybdenum					
Nickel					
Palladium					
Platinum					
Potassium					
Selenium	anr				
Silicon					
Silver	anr				
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Tungsten					
Vanadium					
Zinc					

Associated samples MP16354: M96199-1A, M96199-2A, M96199-3A, M96199-5A

\_\_\_\_\_

Login Number: M96199 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16354 Methods: SW846 6010C Matrix Type: LEACHATE Units: mg/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

# Login Number: M96199 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16354 Methods: SW846 6010C Matrix Type: LEACHATE Units:  $\mbox{mg/l}$ 

Matrix Type:	LEACHATE								
Prep Date:			12/09/10					12/09/1	0
Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	BSD Result	Spikelot MPICP	% Rec	BSD RPD	QC Limit
Aluminum									
Antimony									
Arsenic	anr								
Barium	anr								
Beryllium									
Boron									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt									
Copper									
Gold									
Iron									
Lead	0.91	1.0	91.0	80-120	0.91	1.0	91.0	0.0	20
Magnesium									
Manganese									
Molybdenum									
Nickel									
Palladium									
Platinum									
Potassium									
Selenium	anr								
Silicon									
Silver	anr								
Sodium									
Strontium									
Thallium									
Tin									
Titanium									
Tungsten									
Vanadium									
Zinc									

Associated samples MP16354: M96199-1A, M96199-2A, M96199-3A, M96199-5A

\_\_\_\_\_

Login Number: M96199
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16354 Methods: SW846 6010C Matrix Type: LEACHATE Units:  $\mbox{mg/l}$ 

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

### SERIAL DILUTION RESULTS SUMMARY

# Login Number: M96199 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16354 Methods: SW846 6010C Matrix Type: LEACHATE Units: ug/l

Prep Date: 12/09/10

Metal	M96199-5 Original	5A SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium	anr			
Beryllium				
Boron				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper				
Gold				
Iron				
Lead	555	576	3.6	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel				
Palladium				
Platinum				
Potassium				
Selenium	anr			
Silicon				
Silver	anr			
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc				

Associated samples MP16354: M96199-1A, M96199-2A, M96199-3A, M96199-5A

\_\_\_\_\_

### SERIAL DILUTION RESULTS SUMMARY

Login Number: M96199
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16354 Methods: SW846 6010C Matrix Type: LEACHATE Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested



## General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries



## METHOD BLANK AND SPIKE RESULTS SUMMARY GENERAL CHEMISTRY

Login Number: M96199
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Cyanide Reactivity	GP12374/GN33632	1.5	<1.5	mg/kg	250	31.4	12.6	- %
Sulfide Reactivity	GP12375/GN33633	50	<50	mg/kg	450	400	88.9	- %

Associated Samples:

Batch GP12374: M96199-1, M96199-2, M96199-3, M96199-4, M96199-5, M96199-6 Batch GP12375: M96199-1, M96199-2, M96199-3, M96199-4, M96199-5, M96199-6 (\*) Outside of QC limits



## DUPLICATE RESULTS SUMMARY GENERAL CHEMISTRY

Login Number: M96199
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Corrosivity as pH	GN33584	м96199-5		7.7	7.7	0.0	0-%
Cyanide Reactivity	GP12374/GN33632	M96225-8	mg/kg	<2.0	<2.0	0.0	0-20%
Ignitability (Flashpoint)	GN33600	M96199-5	Deg. F	>230	>230	0.0	0-20%
Redox Potential Vs H2	GN33623	M96199-6	mv	326	323(a)	0.9(a)	0-20%
Solids, Percent	GN33576	M96199-5	8	89.1	87	2.4	0-20%
Sulfide Reactivity	GP12375/GN33633	M96225-8	mg/kg	<68	<68	0.0	0-20%
рН	GN33588	M96199-5	su	7.7	7.7	0.0	0-20%

#### Associated Samples:

Batch GN33576: M96199-1, M96199-2, M96199-3, M96199-4, M96199-5, M96199-6 Batch GN33584: M96199-1, M96199-2, M96199-3, M96199-4, M96199-5, M96199-6 Batch GN33588: M96199-1, M96199-2, M96199-3, M96199-4, M96199-5, M96199-6 Batch GN33600: M96199-1, M96199-2, M96199-3, M96199-4, M96199-5, M96199-6 Batch GN33623: M96199-1, M96199-2, M96199-3, M96199-4, M96199-5, M96199-6 Batch GP12374: M96199-1, M96199-2, M96199-3, M96199-4, M96199-5, M96199-6 Batch GP12375: M96199-1, M96199-2, M96199-3, M96199-4, M96199-5, M96199-6 (\*) Outside of QC limits

(a) Analysis requested after recommended holding time.



# MATRIX SPIKE RESULTS SUMMARY GENERAL CHEMISTRY

Login Number: M96199
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Cyanide Reactivity	GP12374/GN33632	M96225-8	mg/kg	<2.0	341	41.3	12.1	- 왕
Sulfide Reactivity	GP12375/GN33633	M96225-8	mg/kg	<68	613	409	66.7	- 왕

#### Associated Samples:

Batch GP12374: M96199-1, M96199-2, M96199-3, M96199-4, M96199-5, M96199-6 Batch GP12375: M96199-1, M96199-2, M96199-3, M96199-4, M96199-5, M96199-6 (\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits





12/18/10



### Technical Report for

Haley & Aldrich

Former Energy International Parcel, MA

06318-502

Accutest Job Number: M96200

Sampling Date: 11/29/10

#### Report to:

Haley & Aldrich

jkullmann@haleyaldrich.com

ATTN: Jane Kullmann

Total number of pages in report: 51



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Client Service contact: Kristen Blanchard 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) ISO 17025:2005 (L2235) This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories. Test results relate only to samples analyzed.

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ACCUTEST

M96200

ABBRATURIES

Lab Director

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### **Sample Summary**

Haley & Aldrich

Job No: M96200

Former Energy International Parcel, MA Project No: 06318-502

Sample Number	Collected Date	Time By	Received	Matri Code		Client Sample ID
M96200-1	11/29/10	08:00 MD	11/29/10	SO	Soil	HA112_0-2'
M96200-2	11/29/10	08:05 MD	11/29/10	SO	Soil	HA112_2-4'
M96200-4	11/29/10	08:50 MD	11/29/10	SO	Soil	HA112_6-8'
M96200-5	11/29/10	09:15 MD	11/29/10	SO	Soil	HA112_8-10'
M96200-6	11/29/10	09:20 MD	11/29/10	SO	Soil	HA112_10-12'
M96200-7	11/29/10	09:40 MD	11/29/10	SO	Soil	HA112_14-16.5'
M96200-8	11/29/10	09:55 MD	11/29/10	SO	Soil	HA112_16.5-18.0'
M96200-9	11/29/10	11:10 MD	11/29/10	SO	Soil	HA113_0-2'
M96200-10	11/29/10	09:35 MD	11/29/10	SO	Soil	HA112_12-14'
M96200-11	11/29/10	11:00 MD	11/29/10	SO	Soil	HA113_2-4'
M96200-13	11/29/10	11:20 MD	11/29/10	SO	Soil	HA113_6-8'
M96200-14	11/29/10	12:10 MD	11/29/10	SO	Soil	HA113_8-10'
M96200-15	11/29/10	12:00 MD	11/29/10	SO	Soil	HA113_10-12'

Soil samples reported on a dry weight basis unless otherwise indicated on result page.





# Sample Summary (continued)

Haley & Aldrich

Job No: M96200

Former Energy International Parcel, MA Project No: 06318-502

Sample Number	Collected Date	Time By	Received	Matr Code		Client Sample ID
M96200-16	11/29/10	12:25 MD	11/29/10	SO	Soil	HA113_12-14'
M96200-17	11/29/10	12:20 MD	11/29/10	SO	Soil	HA113_14-15.5'
M96200-18	11/29/10	13:00 MD	11/29/10	SO	Soil	HA113_15.5-18.0'
M96200-19	11/29/10	13:40 MD	11/29/10	SO	Soil	HA111_0-2'
M96200-20	11/29/10	13:30 MD	11/29/10	SO	Soil	HA111_2-4'
M96200-22	11/29/10	14:10 MD	11/29/10	SO	Soil	HA111_6-8'
M96200-23	11/29/10	14:15 MD	11/29/10	SO	Soil	HA111_8-10'
M96200-24	11/29/10	14:20 MD	11/29/10	SO	Soil	HA111_10-12'
M96200-25	11/29/10	14:30 MD	11/29/10	SO	Soil	HA111_12-14'
M96200-26	11/29/10	14:40 MD	11/29/10	SO	Soil	HA111_14-16'
M96200-27	11/29/10	15:20 MD	11/29/10	SO	Soil	HA111_16-18'

Soil samples reported on a dry weight basis unless otherwise indicated on result page.





#### SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Haley & Aldrich Job No M96200

Site: Former Energy International Parcel, MA Report Date 12/18/2010 5:31:36 PM

24 Sample(s) were collected on 11/29/2010 and were received at Accutest on 11/29/2010 properly preserved, at 1.3 Deg. C and intact. These Samples received an Accutest job number of M96200. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

#### Extractables by GC By Method SW846 8082

Matrix SO Batch ID: OP23507

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96200-5MS, M96200-5MSD were used as the QC samples indicated.
- M96200-5 for Decachlorobiphenyl: Outside control limits due to possible matrix interference.
- OP23507-MS/MSD for Decachlorobiphenyl: Outside control limits due to possible matrix interference.
- M96200-26 for Tetrachloro-m-xylene: Outside control limits due to possible matrix interference.
- M96200-14, M96200-16 for Aroclor 1260: Estimated value due to the presence of other Arochlor pattern.

Matrix SO Batch ID: OP23621

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96200-1MS, M96200-1MSD were used as the QC samples indicated.
- Sample(s) M96200-19 have compounds reported with "E" qualifiers indicating estimated value exceeding calibration range. Estimated value due to the presence of other Arochlor pattern.
- M96200-1, M96200-1, M96200-9, M96200-11, M96200-19, M96200-20, OP23621-MS, OP23621-MSD for Decachbrobiphenyl: Outside control limits due to possible matrix interference.
- M96200-9 for Aroclor 1260: Estimated value due to the presence of other Arochlor pattern.
- M96200-9, M96200-19 for Decachlorobiphenyl, Tetrachloro-m-xylene: Outside control limits due to dilution.
- M96200-19 for Aroclor 1254: Estimated value due to the presence of other Arochlor pattern.

#### Wet Chemistry By Method SM21 2540 B MOD.

Matrix SO Batch ID: GN33577

Sample(s) M96200-27DUP were used as the QC samples for Solids, Percent.

Matrix SO Batch ID: GN33609

Sample(s) M96200-13DUP were used as the QC samples for Solids, Percent.

Matrix SO Batch ID: GN33702

Sample(s) M96200-2DUP were used as the QC samples for Solids, Percent.



The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety. The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(M96200).



Sample Results	
Report of Analysis	



Client Sample ID: HA112\_0-2'
Lab Sample ID: M96200-1
Matrix: SO - Soil

**Method:** SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA

**Date Sampled:** 11/29/10 **Date Received:** 11/29/10

Percent Solids: 90.9

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	<b>Analytical Batch</b>
Run #1	YZ62994.D	1	12/15/10	CZ	12/13/10	OP23621	GYZ2675
Run #2							

	<b>Initial Weight</b>	Final Volume
Run #1	15.3 g	10.0 ml
Run #2		

#### **PCB** List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	110	ug/kg	
11104-28-2	Aroclor 1221	ND	110	ug/kg	
11141-16-5	Aroclor 1232	ND	110	ug/kg	
53469-21-9	Aroclor 1242	ND	110	ug/kg	
12672-29-6	Aroclor 1248	ND	110	ug/kg	
11097-69-1	Aroclor 1254	ND	110	ug/kg	
11096-82-5	Aroclor 1260	ND	110	ug/kg	
37324-23-5	Aroclor 1262	ND	110	ug/kg	
11100-14-4	Aroclor 1268	ND	110	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its
877-09-8	Tetrachloro-m-xylene	89%		30-1	50%
877-09-8	Tetrachloro-m-xylene	77%		30-1	50%
2051-24-3	Decachlorobiphenyl	367% <sup>a</sup>		30-1	50%
2051-24-3	Decachlorobiphenyl	126%		30-1	50%

(a) Outside control limits due to possible matrix interference.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

 $N = \ Indicates \ presumptive \ evidence \ of \ a \ compound$ 



Client Sample ID: HA112\_2-4' Lab Sample ID: M96200-2

Matrix: SO - Soil Method: SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA **Date Sampled:** 11/29/10 **Date Received:** 11/29/10

**Percent Solids:** 91.5

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 YZ62995.D 1 12/15/10 CZ12/13/10 OP23621 GYZ2675 Run #2

**Final Volume Initial Weight** Run #1 10.0 ml 15.9 g

Run #2

#### **PCB List**

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	100	ug/kg	
11104-28-2	Aroclor 1221	ND	100	ug/kg	
11141-16-5	Aroclor 1232	ND	100	ug/kg	
53469-21-9	Aroclor 1242	ND	100	ug/kg	
12672-29-6	Aroclor 1248	ND	100	ug/kg	
11097-69-1	Aroclor 1254	ND	100	ug/kg	
11096-82-5	Aroclor 1260	ND	100	ug/kg	
37324-23-5	Aroclor 1262	ND	100	ug/kg	
11100-14-4	Aroclor 1268	ND	100	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its
877-09-8	Tetrachloro-m-xylene	77%		30-1	50%
877-09-8	Tetrachloro-m-xylene	77%		30-1	50%
2051-24-3	Decachlorobiphenyl	734% <sup>a</sup>		30-1	50%
2051-24-3	Decachlorobiphenyl	79%		30-1	50%

(a) Outside control limits due to possible matrix interference.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



### **Report of Analysis**

Client Sample ID: HA112\_6-8'
Lab Sample ID: M96200-4
Matrix: SO - Soil

**Method:** SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA

**Date Sampled:** 11/29/10 **Date Received:** 11/29/10

Percent Solids: 82.8

File ID DF **Prep Date Analytical Batch** Analyzed By **Prep Batch** Run #1 BE22753.D 1 12/06/10 AP 12/02/10 OP23507 GBE1365 Run #2

Run #1 15.9 g 10.0 ml Run #2

rtan n2

#### **PCB List**

CAS No.	Compound	Result	RL	Units	Q
12674-11-2 11104-28-2 11141-16-5 53469-21-9 12672-29-6 11097-69-1 11096-82-5 37324-23-5	Aroclor 1016 Aroclor 1221 Aroclor 1232 Aroclor 1242 Aroclor 1248 Aroclor 1254 Aroclor 1260 Aroclor 1262	ND ND ND ND ND ND ND ND ND ND	110 110 110 110 110 110 110 110	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	
11100-14-4	Aroclor 1268	ND	110	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limit	s
877-09-8 877-09-8 2051-24-3	Tetrachloro-m-xylene Tetrachloro-m-xylene Decachlorobiphenyl	99% 68% 94%		30-150 30-150	0% 0%
2051-24-3	Decachlorobiphenyl	114%		30-15	0%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



### **Report of Analysis**

By

AP

Client Sample ID: HA112\_8-10' Lab Sample ID: M96200-5 Matrix: SO - Soil

File ID

BE22788.D

Method: SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA

DF

1

Analyzed

12/06/10

**Date Sampled:** 11/29/10 **Date Received:** 11/29/10 Percent Solids: 85.3

**Analytical Batch Prep Date Prep Batch** 12/02/10 OP23507 GBE1365

Run #1 Run #2

**Final Volume Initial Weight** Run #1 10.0 ml 15.4 g

Run #2

#### **PCB List**

CAS No.	Compound	Result	RL	Units Q
12674-11-2	Aroclor 1016	ND	110	ug/kg
11104-28-2	Aroclor 1221	ND	110	ug/kg
11141-16-5	Aroclor 1232	ND	110	ug/kg
53469-21-9	Aroclor 1242	ND	110	ug/kg
12672-29-6	Aroclor 1248	ND	110	ug/kg
11097-69-1	Aroclor 1254	ND	110	ug/kg
11096-82-5	Aroclor 1260	ND	110	ug/kg
37324-23-5	Aroclor 1262	ND	110	ug/kg
11100-14-4	Aroclor 1268	ND	110	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	99%		30-150%
877-09-8	Tetrachloro-m-xylene	95%		30-150%
2051-24-3	Decachlorobiphenyl	87%		30-150%
2051-24-3	Decachlorobiphenyl	254% <sup>a</sup>		30-150%

(a) Outside control limits due to possible matrix interference.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



### **Report of Analysis**

Client Sample ID: HA112\_10-12' Lab Sample ID: M96200-6

Matrix: SO - Soil

Method: SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA Percent Solids: 70.9

**Date Sampled:** 11/29/10

**Date Received:** 11/29/10

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 BE22736.D 1 12/05/10 AP 12/02/10 OP23507 GBE1365

Run #2

**Initial Weight Final Volume** 15.7 g 10.0 ml

Run #1 Run #2

#### **PCB List**

CAS No.	Compound	Result	RL	Units Q
12674-11-2 11104-28-2 11141-16-5 53469-21-9 12672-29-6 11097-69-1 11096-82-5 37324-23-5	Aroclor 1016 Aroclor 1221 Aroclor 1232 Aroclor 1242 Aroclor 1248 Aroclor 1254 Aroclor 1260 Aroclor 1262	ND ND ND ND ND ND ND ND ND ND ND ND ND N	130 130 130 130 130 130 130 130	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg
11100-14-4 CAS No.	Aroclor 1268  Surrogate Recoveries	ND Run# 1	130 Run# 2	ug/kg  Limits
877-09-8 877-09-8 2051-24-3 2051-24-3	Tetrachloro-m-xylene Tetrachloro-m-xylene Decachlorobiphenyl Decachlorobiphenyl	89% 112% 86% 108%		30-150% 30-150% 30-150% 30-150%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



### **Report of Analysis**

Client Sample ID: HA112\_14-16.5'

 Lab Sample ID:
 M96200-7
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Method:
 SW846 8082
 SW846 3540C
 Percent Solids:
 79.4

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BE22785.D 1 12/06/10 AP 12/02/10 OP23507 GBE1365

Run #2

Run #1 15.9 g Final Volume

Run #2

#### **PCB** List

CAS No.	Compound	Result	RL	Units Q
12674-11-2 11104-28-2 11141-16-5 53469-21-9 12672-29-6 11097-69-1 11096-82-5 37324-23-5	Aroclor 1016 Aroclor 1221 Aroclor 1232 Aroclor 1242 Aroclor 1248 Aroclor 1254 Aroclor 1260 Aroclor 1262	ND ND ND ND ND ND ND ND ND ND ND	120 120 120 120 120 120 120 120 120	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg
11100-14-4	Aroclor 1268	ND	120	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8 877-09-8 2051-24-3 2051-24-3	Tetrachloro-m-xylene Tetrachloro-m-xylene Decachlorobiphenyl Decachlorobiphenyl	112% 119% 98% 115%		30-150% 30-150% 30-150% 30-150%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



### **Report of Analysis**

**Client Sample ID:** HA112\_16.5-18.0'

 Lab Sample ID:
 M96200-8
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Method:
 SW846 8082
 SW846 3540C
 Percent Solids:
 63.2

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BE22737.D 1 12/05/10 AP 12/02/10 OP23507 GBE1365

Run #2

Run #1 15.4 g Final Volume

Run #2

#### **PCB** List

CAS No.	Compound	Result	RL	Units Q
12674-11-2	Aroclor 1016	ND	150	ug/kg
11104-28-2	Aroclor 1221	ND	150	ug/kg
11141-16-5	Aroclor 1232	ND	150	ug/kg
53469-21-9	Aroclor 1242	ND	150	ug/kg
12672-29-6	Aroclor 1248	ND	150	ug/kg
11097-69-1	Aroclor 1254	ND	150	ug/kg
11096-82-5	Aroclor 1260	ND	150	ug/kg
37324-23-5	Aroclor 1262	ND	150	ug/kg
11100-14-4	Aroclor 1268	ND	150	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	8			
877-09-8	Tetrachloro-m-xylene	104%		30-150%
877-09-8	Tetrachloro-m-xylene	103%		30-150%
2051-24-3	Decachlorobiphenyl	107%		30-150%
2051-24-3	Decachlorobiphenyl	109%		30-150%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



### **Report of Analysis**

Client Sample ID: HA113\_0-2' Lab Sample ID: M96200-9 Matrix: SO - Soil

Method: SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA **Date Sampled:** 11/29/10 **Date Received:** 11/29/10

Percent Solids: 80.9

	File ID	DF	Analyzed	$\mathbf{B}\mathbf{y}$	Prep Date	Prep Batch	<b>Analytical Batch</b>
Run #1	YZ62996.D	1	12/15/10	CZ	12/13/10	OP23621	GYZ2675
Run #2	YZ63041.D	100	12/16/10	CZ	12/13/10	OP23621	GYZ2676

	Initial Weight	Final Volume
Run #1	15.6 g	10.0 ml
Run #2	15.6 g	10.0 ml

#### **PCB List**

CAS No.	Compound	Result	RL	Units Q
12674-11-2	Aroclor 1016	ND	120	ug/kg
11104-28-2	Aroclor 1221	ND	120	ug/kg
11141-16-5	Aroclor 1232	ND	120	ug/kg
53469-21-9	Aroclor 1242	ND	120	ug/kg
12672-29-6	Aroclor 1248	ND	120	ug/kg
11097-69-1	Aroclor 1254	33700 a	12000	ug/kg
11096-82-5	Aroclor 1260 b	13100 a	12000	ug/kg
37324-23-5	Aroclor 1262	ND	120	ug/kg
11100-14-4	Aroclor 1268	ND	120	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	80%	0% c	30-150%
877-09-8	Tetrachloro-m-xylene	83%	0% c	30-150%
2051-24-3	Decachlorobiphenyl	326% d	0% c	30-150%
2051-24-3	Decachlorobiphenyl	175% <sup>d</sup>	0% c	30-150%

- (a) Result is from Run# 2
- (b) Estimated value due to the presence of other Arochlor pattern.
- (c) Outside control limits due to dilution.
- (d) Outside control limits due to possible matrix interference.

ND = Not detected RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



### **Report of Analysis**

**Client Sample ID:** HA112\_12-14' **Lab Sample ID:** M96200-10

 Matrix:
 SO - Soil

 Method:
 SW846 8082
 SW846 3540C

**Project:** Former Energy International Parcel, MA

10.0 ml

**Date Sampled:** 11/29/10 **Date Received:** 11/29/10

Percent Solids: 79.8

File ID DF **Prep Date Analytical Batch** Analyzed By **Prep Batch** Run #1 BE22738.D 1 12/05/10 AP 12/02/10 OP23507 GBE1365 Run #2

Initial Weight Final Volume

15.4 g

Run #1 Run #2

#### **PCB** List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	120	ug/kg	
11104-28-2	Aroclor 1221	ND	120	ug/kg	
11141-16-5	Aroclor 1232	ND	120	ug/kg	
53469-21-9	Aroclor 1242	ND	120	ug/kg	
12672-29-6	Aroclor 1248	ND	120	ug/kg	
11097-69-1	Aroclor 1254	ND	120	ug/kg	
11096-82-5	Aroclor 1260	ND	120	ug/kg	
37324-23-5	Aroclor 1262	ND	120	ug/kg	
11100-14-4	Aroclor 1268	ND	120	ug/kg	
				0 0	
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limi	ts
877-09-8	Tetrachloro-m-xylene	128%		30-15	60%
877-09-8	Tetrachloro-m-xylene	115%		30-15	60%
2051-24-3	Decachlorobiphenyl	112%		30-15	60%
2051-24-3	Decachlorobiphenyl	104%		30-15	60%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



Page 1 of 1

Client Sample ID: HA113\_2-4' Lab Sample ID: M96200-11

File ID

YZ62997.D

Matrix: SO - Soil

Method: SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA

DF

1

Analyzed

12/15/10

**Date Sampled:** 11/29/10 **Date Received:** 11/29/10 **Percent Solids:** 86.7

**Analytical Batch** By **Prep Date Prep Batch** CZ12/13/10 OP23621 GYZ2675

Run #1 Run #2

**Final Volume Initial Weight** Run #1 10.0 ml 15.5 g

Run #2

#### **PCB List**

CAS No.	Compound	Result	RL	Units Q	)
12674-11-2	Aroclor 1016	ND	110	ug/kg	
11104-28-2	Aroclor 1221	ND	110	ug/kg	
11141-16-5	Aroclor 1232	ND	110	ug/kg	
53469-21-9	Aroclor 1242	ND	110	ug/kg	
12672-29-6	Aroclor 1248	ND	110	ug/kg	
11097-69-1	Aroclor 1254	ND	110	ug/kg	
11096-82-5	Aroclor 1260	ND	110	ug/kg	
37324-23-5	Aroclor 1262	ND	110	ug/kg	
11100-14-4	Aroclor 1268	ND	110	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
877-09-8	Tetrachloro-m-xylene	83%		30-150%	6
877-09-8	Tetrachloro-m-xylene	78%		30-150%	ó
2051-24-3	Decachlorobiphenyl	184% <sup>a</sup>		30-150%	ó
2051-24-3	Decachlorobiphenyl	77%		30-150%	ó

(a) Outside control limits due to possible matrix interference.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



By

AP

Page 1 of 1

Client Sample ID: HA113\_6-8' Lab Sample ID: M96200-13

Matrix: SO - Soil

File ID

BE22754.D

**Method:** SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA

DF

1

Analyzed

12/06/10

Date Sampled: 11/29/10
Date Received: 11/29/10
Percent Solids: 81.0

Prep Date Prep Batch Analytical Batch 12/02/10 OP23507 GBE1365

Run #1 Run #2

Initial Weight Final Volume

Run #1 15.2 g 10.0 ml

Run #2

#### **PCB List**

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	120	ug/kg	
11104-28-2	Aroclor 1221	ND	120	ug/kg	
11141-16-5	Aroclor 1232	ND	120	ug/kg	
53469-21-9	Aroclor 1242	ND	120	ug/kg	
12672-29-6	Aroclor 1248	ND	120	ug/kg	
11097-69-1	Aroclor 1254	ND	120	ug/kg	
11096-82-5	Aroclor 1260	ND	120	ug/kg	
37324-23-5	Aroclor 1262	ND	120	ug/kg	
11100-14-4	Aroclor 1268	ND	120	ug/kg	
				0 0	
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limit	S
877-09-8	Tetrachloro-m-xylene	90%		30-15	0%
877-09-8	Tetrachloro-m-xylene	104%		30-15	0%
2051-24-3	Decachlorobiphenyl	91%		30-15	0%
2051-24-3	Decachlorobiphenyl	97%		30-15	0%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



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#### **Report of Analysis** Page 1 of 1

Client Sample ID: HA113\_8-10' Lab Sample ID: M96200-14 Matrix: SO - Soil

Method: SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA

DF

1

Analyzed

12/05/10

By

AP

**Date Sampled:** 11/29/10 **Date Received:** 11/29/10 **Percent Solids:** 73.5

**Analytical Batch Prep Date Prep Batch** 12/02/10 OP23507 GBE1365

Run #1 Run #2

**Final Volume Initial Weight** Run #1 10.0 ml 15.2 g

File ID

BE22741.D

Run #2

#### **PCB List**

CAS No.	Compound	Result	RL	Units Q
12674-11-2	Aroclor 1016	ND	130	ug/kg
11104-28-2	Aroclor 1221	ND	130	ug/kg
11141-16-5	Aroclor 1232	ND	130	ug/kg
53469-21-9	Aroclor 1242	ND	130	ug/kg
12672-29-6	Aroclor 1248	ND	130	ug/kg
11097-69-1	Aroclor 1254	396	130	ug/kg
11096-82-5	Aroclor 1260 <sup>a</sup>	285	130	ug/kg
37324-23-5	Aroclor 1262	ND	130	ug/kg
11100-14-4	Aroclor 1268	ND	130	ug/kg
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	133%		30-150%
877-09-8	Tetrachloro-m-xylene	132%		30-150%
2051-24-3	Decachlorobiphenyl	116%		30-150%
2051-24-3	Decachlorobiphenyl	122%		30-150%

(a) Estimated value due to the presence of other Arochlor pattern.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Page 1 of 1

Client Sample ID: HA113\_10-12'

 Lab Sample ID:
 M96200-15
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Method:
 SW846 8082
 SW846 3540C
 Percent Solids:
 73.8

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BE22739.D 1 12/05/10 AP 12/02/10 OP23507 GBE1365

Run #2

Initial Weight Final Volume
Run #1 15.1 g 10.0 ml

Run #2

#### **PCB List**

CAS No.	Compound	Result	RL	Units Q
12674-11-2	Aroclor 1016	ND	130	ug/kg
11104-28-2	Aroclor 1221	ND	130	ug/kg
11141-16-5	Aroclor 1232	ND	130	ug/kg
53469-21-9	Aroclor 1242	ND	130	ug/kg
12672-29-6	Aroclor 1248	ND	130	ug/kg
11097-69-1	Aroclor 1254	ND	130	ug/kg
11096-82-5	Aroclor 1260	ND	130	ug/kg
37324-23-5	Aroclor 1262	ND	130	ug/kg
11100-14-4	Aroclor 1268	ND	130	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	97%		30-150%
877-09-8	Tetrachloro-m-xylene	93%		30-150%
2051-24-3	Decachlorobiphenyl	86%		30-150%
2051-24-3	Decachlorobiphenyl	84%		30-150%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



Page 1 of 1

Client Sample ID: HA113\_12-14'

 Lab Sample ID:
 M96200-16
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Method:
 SW846 8082
 SW846 3540C
 Percent Solids:
 76.8

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BE22742.D 1 12/05/10 AP 12/02/10 OP23507 GBE1365

Run #2

Run #1 15.5 g Final Volume 10.0 ml

Run #2

#### **PCB List**

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	130	ug/kg	
11104-28-2	Aroclor 1221	ND	130	ug/kg	
11141-16-5	Aroclor 1232	ND	130	ug/kg	
53469-21-9	Aroclor 1242	ND	130	ug/kg	
12672-29-6	Aroclor 1248	ND	130	ug/kg	
11097-69-1	Aroclor 1254	643	130	ug/kg	
11096-82-5	Aroclor 1260 a	246	130	ug/kg	
37324-23-5	Aroclor 1262	ND	130	ug/kg	
11100-14-4	Aroclor 1268	ND	130	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	its
877-09-8	Tetrachloro-m-xylene	132%		30-1	50%
877-09-8	Tetrachloro-m-xylene	107%		30-1	50%
2051-24-3	Decachlorobiphenyl	105%		30-1	50%
2051-24-3	Decachlorobiphenyl	127%		30-1	50%

(a) Estimated value due to the presence of other Arochlor pattern.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

 $N = \ Indicates \ presumptive \ evidence \ of \ a \ compound$ 



### **Report of Analysis**

Client Sample ID: HA113\_14-15.5'

 Lab Sample ID:
 M96200-17
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Method:
 SW846 8082
 SW846 3540C
 Percent Solids:
 76.8

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BE22743.D 1 12/05/10 AP 12/02/10 OP23507 GBE1365

Run #2

Run #1 15.5 g Final Volume 10.0 ml

Run #2

#### **PCB List**

CAS No.	Compound	Result	RL	Units Q	
12674-11-2	Aroclor 1016	ND	130	ug/kg	
11104-28-2	Aroclor 1221	ND	130	ug/kg	
11141-16-5	Aroclor 1232	ND	130	ug/kg	
53469-21-9	Aroclor 1242	ND	130	ug/kg	
12672-29-6	Aroclor 1248	ND	130	ug/kg	
11097-69-1	Aroclor 1254	ND	130	ug/kg	
11096-82-5	Aroclor 1260	ND	130	ug/kg	
37324-23-5	Aroclor 1262	ND	130	ug/kg	
11100-14-4	Aroclor 1268	ND	130	ug/kg	
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits	
877-09-8	Tetrachloro-m-xylene	124%		30-150%	
877-09-8	Tetrachloro-m-xylene	112%		30-150%	
2051-24-3	Decachlorobiphenyl	97%		30-150%	
2051-24-3	Decachlorobiphenyl	110%		30-150%	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



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**Client Sample ID:** HA113\_15.5-18.0'

 Lab Sample ID:
 M96200-18
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Method:
 SW846 8082
 SW846 3540C
 Percent Solids:
 60.6

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BE22744.D 1 12/05/10 AP 12/02/10 OP23507 GBE1365

Run #2

Run #1 15.7 g Final Volume

Run #2

#### **PCB List**

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	160	ug/kg	
11104-28-2	Aroclor 1221	ND	160	ug/kg	
11141-16-5	Aroclor 1232	ND	160	ug/kg	
53469-21-9	Aroclor 1242	ND	160	ug/kg	
12672-29-6	Aroclor 1248	ND	160	ug/kg	
11097-69-1	Aroclor 1254	ND	160	ug/kg	
11096-82-5	Aroclor 1260	ND	160	ug/kg	
37324-23-5	Aroclor 1262	ND	160	ug/kg	
11100-14-4	Aroclor 1268	ND	160	ug/kg	
				00	
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limi	its
877-09-8	Tetrachloro-m-xylene	111%		30-1	50%
877-09-8	Tetrachloro-m-xylene	114%		30-1	50%
2051-24-3	Decachlorobiphenyl	109%		30-1	
2051-24-3	Decachlorobiphenyl	146%		30-1	50%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



Page 1 of 1

Client Sample ID: HA111\_0-2' Lab Sample ID: M96200-19

Matrix: SO - Soil

Method: SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA **Date Sampled:** 11/29/10 **Date Received:** 11/29/10 **Percent Solids:** 87.7

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	<b>Analytical Batch</b>
Run #1	YZ63075.D	1	12/16/10	CZ	12/13/10	OP23621	GYZ2677
Run #2	YZ63042.D	20	12/16/10	CZ	12/13/10	OP23621	GYZ2676

	Initial Weight	Final Volume
Run #1	15.4 g	10.0 ml
Run #2	15.4 g	10.0 ml

#### **PCB List**

CAS No.	Compound	Result	RL	Units Q
12674-11-2	Aroclor 1016	ND	110	ug/kg
11104-28-2	Aroclor 1221	ND	110	ug/kg
11141-16-5	Aroclor 1232	ND	110	ug/kg
53469-21-9	Aroclor 1242	ND	110	ug/kg
12672-29-6	Aroclor 1248 a	1140	110	ug/kg E
11097-69-1	Aroclor 1254 a	4470 <sup>b</sup>	2200	ug/kg
11096-82-5	Aroclor 1260	6020 b	2200	ug/kg
37324-23-5	Aroclor 1262	ND	110	ug/kg
11100-14-4	Aroclor 1268	ND	110	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	93%	0% c	30-150%
877-09-8	Tetrachloro-m-xylene	118%	0% c	30-150%
2051-24-3	Decachlorobiphenyl	245% d	0% c	30-150%
2051-24-3	Decachlorobiphenyl	136%	0% c	30-150%

- (a) Estimated value due to the presence of other Arochlor pattern.
- (b) Result is from Run# 2
- (c) Outside control limits due to dilution.
- (d) Outside control limits due to possible matrix interference.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



Page 1 of 1

Client Sample ID: HA111\_2-4' Lab Sample ID: M96200-20

 Matrix:
 SO - Soil

 Method:
 SW846 8082
 SW846 3540C

**Project:** Former Energy International Parcel, MA

Date Sampled: 11/29/10
Date Received: 11/29/10
Percent Solids: 85.8

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 YZ63077.D 1 12/16/10 CZ 12/13/10 OP23621 GYZ2677

Run #2

Run #1 15.1 g Final Volume

Run #2

#### **PCB List**

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	120	ug/kg	
11104-28-2	Aroclor 1221	ND	120	ug/kg	
11141-16-5	Aroclor 1232	ND	120	ug/kg	
53469-21-9	Aroclor 1242	ND	120	ug/kg	
12672-29-6	Aroclor 1248	ND	120	ug/kg	
11097-69-1	Aroclor 1254	ND	120	ug/kg	
11096-82-5	Aroclor 1260	ND	120	ug/kg	
37324-23-5	Aroclor 1262	ND	120	ug/kg	
11100-14-4	Aroclor 1268	ND	120	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	ts
877-09-8	Tetrachloro-m-xylene	93%		30-1:	50%
877-09-8	Tetrachloro-m-xylene	89%		30-1:	50%
2051-24-3	Decachlorobiphenyl	162% a		30-1	50%
2051-24-3	Decachlorobiphenyl	139%		30-1	50%

(a) Outside control limits due to possible matrix interference.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



Page 1 of 1

Client Sample ID: HA111\_6-8' Lab Sample ID: M96200-22

File ID

BE22755.D

 Matrix:
 SO - Soil

 Method:
 SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA

DF

1

Analyzed

12/06/10

Date Sampled: 11/29/10 Date Received: 11/29/10 Percent Solids: 70.2

By Prep Date Prep Batch Analytical Batch
AP 12/02/10 OP23507 GBE1365

Run #1 Run #2

Initial Weight Final Volume
Run #1 15.4 g 10.0 ml

Run #2

#### **PCB List**

CAS No.	Compound	Result	RL	Units	Q
CAS NO.	Compound	Result	KL	Ullits	Ų
12674-11-2	Aroclor 1016	ND	140	ug/kg	
11104-28-2	Aroclor 1221	ND	140	ug/kg	
11141-16-5	Aroclor 1232	ND	140	ug/kg	
53469-21-9	Aroclor 1242	ND	140	ug/kg	
12672-29-6	Aroclor 1248	ND	140	ug/kg	
11097-69-1	Aroclor 1254	ND	140	ug/kg	
11096-82-5	Aroclor 1260	ND	140	ug/kg	
37324-23-5	Aroclor 1262	ND	140	ug/kg	
11100-14-4	Aroclor 1268	ND	140	ug/kg	
				00	
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Lim	its
877-09-8	Tetrachloro-m-xylene	102%		30-1	50%
877-09-8	Tetrachloro-m-xylene	102%		30-1	50%
2051-24-3	Decachlorobiphenyl	92%		30-1	50%
2051-24-3	Decachlorobiphenyl	94%		30-1	50%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



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GBE1365

### **Report of Analysis**

By

AP

Client Sample ID: HA111\_8-10'
Lab Sample ID: M96200-23
Matrix: SO - Soil

File ID

BE22745.D

**Method:** SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA

DF

1

Analyzed

12/05/10

Date Sampled: 11/29/10
Date Received: 11/29/10
Percent Solids: 63.9

12/02/10

Prep Date Prep Batch Analytical Batch

OP23507

Run #1 Run #2

Run #1 15.7 g 10.0 ml

Run #2

#### **PCB** List

Compound	Result	RL	Units Q
Aroclor 1016	ND	150	ug/kg
Aroclor 1221	ND	150	ug/kg
Aroclor 1232	ND	150	ug/kg
Aroclor 1242	ND	150	ug/kg
Aroclor 1248	ND	150	ug/kg
Aroclor 1254	ND	150	ug/kg
Aroclor 1260	ND	150	ug/kg
Aroclor 1262	ND	150	ug/kg
Aroclor 1268	ND	150	ug/kg
Surrogate Recoveries	Run# 1	Run# 2	Limits
Tetrachloro-m-xylene	134%		30-150%
Tetrachloro-m-xylene	135%		30-150%
Decachlorobiphenyl	114%		30-150%
Decachlorobiphenyl	138%		30-150%
	Aroclor 1016 Aroclor 1221 Aroclor 1232 Aroclor 1242 Aroclor 1248 Aroclor 1254 Aroclor 1260 Aroclor 1262 Aroclor 1268  Surrogate Recoveries  Tetrachloro-m-xylene Tetrachloro-m-xylene Decachlorobiphenyl	Aroclor 1016 Aroclor 1221 Aroclor 1232 Aroclor 1242 Aroclor 1248 Aroclor 1254 Aroclor 1254 Aroclor 1260 Aroclor 1262 Aroclor 1268  Surrogate Recoveries  Run# 1  Tetrachloro-m-xylene Tetrachloro-m-xylene Decachlorobiphenyl  ND  ND  ND  134% Tetrachloro-m-xylene 135% Decachlorobiphenyl	Aroclor 1016 Aroclor 1221 Aroclor 1232 Aroclor 1242 Aroclor 1248 Aroclor 1254 Aroclor 1260 Aroclor 1262 Aroclor 1268  Surrogate Recoveries  ND 150 Run# 1 Run# 2  Tetrachloro-m-xylene Tetrachloro-m-xylene Decachlorobiphenyl  ND 150 ND 150 ND 150 ND 150 ND 150 ND 150 ND 150 ND 150 ND 150 ND 150 ND 150 ND 150 ND 150 ND 150

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



Page 1 of 1

Client Sample ID: HA111\_10-12'

 Lab Sample ID:
 M96200-24
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Method:
 SW846 8082
 SW846 3540C
 Percent Solids:
 63.0

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BE22746.D 1 12/05/10 AP 12/02/10 OP23507 GBE1365

Run #2

Run #1 15.3 g Final Volume 10.0 ml

Run #2

#### **PCB List**

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	160	ug/kg	
11104-28-2	Aroclor 1221	ND	160	ug/kg	
11141-16-5	Aroclor 1232	ND	160	ug/kg	
53469-21-9	Aroclor 1242	ND	160	ug/kg	
12672-29-6	Aroclor 1248	ND	160	ug/kg	
11097-69-1	Aroclor 1254	ND	160	ug/kg	
11096-82-5	Aroclor 1260	ND	160	ug/kg	
37324-23-5	Aroclor 1262	ND	160	ug/kg	
11100-14-4	Aroclor 1268	ND	160	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	ts
877-09-8	Tetrachloro-m-xylene	93%		30-15	50%
877-09-8	Tetrachloro-m-xylene	94%		30-15	50%
2051-24-3	Decachlorobiphenyl	83%		30-15	50%
2051-24-3	Decachlorobiphenyl	96%		30-15	50%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



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Page 1 of 1

Client Sample ID: HA111\_12-14'

 Lab Sample ID:
 M96200-25
 Date Sampled:
 11/29/10

 Matrix:
 SO - Soil
 Date Received:
 11/29/10

 Method:
 SW846 8082
 SW846 3540C
 Percent Solids:
 71.6

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BE22747.D 1 12/05/10 AP 12/02/10 OP23507 GBE1365

Run #2

Initial Weight Final Volume
Run #1 15.4 g 10.0 ml

Run #2

#### **PCB List**

CAS No.	Compound	Result	RL	Units	Q
CAS 110.	Compound	Result	KL	Cints	V
12674-11-2	Aroclor 1016	ND	140	ug/kg	
11104-28-2	Aroclor 1221	ND	140	ug/kg	
11141-16-5	Aroclor 1232	ND	140	ug/kg	
53469-21-9	Aroclor 1242	ND	140	ug/kg	
12672-29-6	Aroclor 1248	ND	140	ug/kg	
11097-69-1	Aroclor 1254	ND	140	ug/kg	
11096-82-5	Aroclor 1260	ND	140	ug/kg	
37324-23-5	Aroclor 1262	ND	140	ug/kg	
11100-14-4	Aroclor 1268	ND	140	ug/kg	
				0 0	
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Lim	its
877-09-8	Tetrachloro-m-xylene	109%		30-1	50%
877-09-8	Tetrachloro-m-xylene	102%		30-1	50%
2051-24-3	Decachlorobiphenyl	96%		30-1	50%
2051-24-3	Decachlorobiphenyl	102%		30-1	50%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



Page 1 of 1

Client Sample ID: HA111\_14-16'

Lab Sample ID: M96200-26 Matrix: SO - Soil

**Method:** SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA

Date Sampled: 11/29/10
Date Received: 11/29/10
Percent Solids: 61.7

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BE22748.D 1 12/05/10 AP 12/02/10 OP23507 GBE1365

Run #2

Initial Weight Final Volume
Run #1 15.1 g 10.0 ml

Run #2

#### **PCB List**

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	160	ug/kg	
11104-28-2	Aroclor 1221	ND	160	ug/kg	
11141-16-5	Aroclor 1232	ND	160	ug/kg	
53469-21-9	Aroclor 1242	ND	160	ug/kg	
12672-29-6	Aroclor 1248	ND	160	ug/kg	
11097-69-1	Aroclor 1254	ND	160	ug/kg	
11096-82-5	Aroclor 1260	ND	160	ug/kg	
37324-23-5	Aroclor 1262	ND	160	ug/kg	
11100-14-4	Aroclor 1268	ND	160	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its
877-09-8	Tetrachloro-m-xylene	376% a		30-1	50%
877-09-8	Tetrachloro-m-xylene	81%		30-1	50%
2051-24-3	Decachlorobiphenyl	90%		30-1	50%
2051-24-3	Decachlorobiphenyl	104%		30-1	50%

(a) Outside control limits due to possible matrix interference.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



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Page 1 of 1

Client Sample ID: HA111\_16-18' Lab Sample ID: M96200-27

Lab Sample ID: M96200-27

Matrix: SO - Soil

Method: SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA

Date Sampled: 11/29/10
Date Received: 11/29/10
Percent Solids: 60.2

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BE22749.D 1 12/06/10 AP 12/02/10 OP23507 GBE1365

Run #2

Initial Weight Final Volume
Run #1 15.1 g 10.0 ml

Run #2

#### **PCB List**

CAS No.	Compound	Result	RL	Units Q
12674-11-2	Aroclor 1016	ND	160	ug/kg
11104-28-2	Aroclor 1221	ND	160	ug/kg
11141-16-5	Aroclor 1232	ND	160	ug/kg
53469-21-9	Aroclor 1242	ND	160	ug/kg
12672-29-6	Aroclor 1248	ND	160	ug/kg
11097-69-1	Aroclor 1254	ND	160	ug/kg
11096-82-5	Aroclor 1260	ND	160	ug/kg
37324-23-5	Aroclor 1262	ND	160	ug/kg
11100-14-4	Aroclor 1268	ND	160	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	118%		30-150%
877-09-8	Tetrachloro-m-xylene	107%		30-150%
2051-24-3	Decachlorobiphenyl	104%		30-150%
2051-24-3	Decachlorobiphenyl	94%		30-150%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



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Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Parameter Certifications (MA)
- · Chain of Custody
- MCP Form
- Sample Tracking Chronicle



### **Parameter Certification Exceptions**

Job Number: M96200

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA Project:

The following parameters included in this report are exceptions to NELAC certification. The certification status of each is indicated below.

Parameter	CAS#	Method	Mat	Certification Status
Aroclor 1262	37324-23-5	SW846 8082	SO	Certified by SOP MGC204/GC-ECD
Aroclor 1268	11100-14-4	SW846 8082	SO	Certified by SOP MGC204/GC-ECD



Page 1 of 1

HALEYS ALDRICH Haley & Aldrich, Inc. 465 Medford St., Suite 2200, Boston, MA 02129-1400					CHAIN OF CUSTODY RECORD									D	Phone Fax	e (617) 886-7400 (617) 886-7600
					CALLET OF CONTONE RECORD								M96200 2			
					A 1 - 1									Page		
PROJECT NAME FORMER Energy International Pricel													RY DATE 11/29/10			
H&A CONTACT J. Kullman					_ ADDRESS							ROUND TIME 10 - Day				
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Sample No.	Date Time	Depth	Туре	VOA	ABNs PAH ouly	MCP Metals		C-ranges only EPH Full Suite	TPH (specify)	TCLP (specify)	Reactivity Igniability Corrosivity		Number of Containers	(special instructions, preca	Comments autions, additio	nal method numbers, etc.)
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The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.									I .	Sum Quant	y Objectives					
Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.								₹RC-S1	□ s1	□ <sub>GWI</sub>						
This Chain of Custody Record (specify) includes does not include samples defined as Drinking Water Samples.								□ RC-S2	□ S2	□ GW2						
If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are required,							□ RC-GW1	□ S3	□ GW3							
as appropriate. Laboratory should (specify if applicable) analyz						□ RC-GW2		1200								
									-						***************************************	1,3°C
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M96200: Chain of Custody Page 1 of 4



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PROJECT NAME FORMER			-tion TVhia	al Par			ATORY		KGU				DELIVER			/10
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HAIII_0-2'-19		1340	(2 ) (2) (3)				~ <u>&gt;</u> >	i	111							
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Sign Maffell	Sign	Way	menon	->			-						VOA Vial	Tholl all sample	is bod	w.
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Date 1/29/10 Time 1/0/5	Firm	11-29-	Time /	1615					ļļ			opening and	Plastic Bottle		energen passer as migrap	
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Date //- 29-/0 Time		11-29-	V Time	7/5					ļļ-	na tenena 🏥		.j	Amber Glass			
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rint	Print			F			1902	PRE	SERVAT	TON K	TV	1 1 1	Oluthe	If YES, please explain in section	below.	
im	Firm			l.	Sample	abiliad		VaOH	****						·	
Date Time	Date		Time	- 1	Sample			INO <sub>1</sub>	E H			Methanol Water/NaHS	M (alasta)		**************************************	***************************************
												CAM method				
f Presumptive Certainty Data Packar The required minimum fiel Matrix Spike (MS) sample This Chain of Custody Rec  If this Chain of Custody Rec	d QC sample s for MCP M cord (specify) ecord identifi	es, as designa fetals and/or ) ies samples d	ited in BWSC Cyanide are in _includes refined as Drin	CAM-VII hav neluded and ide	e been or entified he ot include	will be co rein. samples	ollected, as	appropriate, Drinking Wa	to meet th	e requir	ements of Pro	esumptive Cer	tainty.	Required Reporting Limits and  PRC-S1  RC-S2  RC-GW1	Data Quality  Si S2 S3	□ GW1 □ GW2 □ GW3
as appropriate. Laboratory	should (spec	ify if applica	ible)	_analyz								-		□ RC-GW2		1,3°C
Form 3003			WHITE - I	aboratory	CA	NARY - F	roject Man	ager	PINK -	Haley &	Aldrich Labor	ratory /	A		······	AUGUST 2008

M96200: Chain of Custody

Page 2 of 4



HALEY 4651 ALDRICH Suite Bost	y & Aldrich, Inc. Medford St., 2 2200, on, MA 02129-1400			(	СНА	IN (	OF (	CUS	ТОІ	DY F	RECOR	D 196200	Phone (617) 886-7400 Fax (617) 886-7600 Page, 3, of 5
	06318-5				ABORATO		Aci	-vtes	+		DELIVE		11/29/10
PROJECT NAME TO ME	Energy Take	ntienel	Three	A	DDRESS	-	MARC	1000	ryh.	MA	TURNAR	OUND TIME	10 Day
H&A CONTACT i./	allman			0	CONTACT		K	Cob	belas		PROJEC	T MANAGER	Colembaly
							An	alysis Req	uested				
Sample No.	Date Time	Depth	Туре	VOA	PAH only MCP Metals	Pesticidad PCBs VPH Full State	C-ranges only EPH Full Suite C-ranges only	TPH (specify)	Reactivity Ignitability Corrosivity		Number of Containers	(special instructions, prec	Comments autions, additional method numbers, e
HAJIL_4-6'-21)	11/19/10 1415	4-6	Soil I			$\sim$						Laboratory to use applica	ble DEP CAM methods, unless otherw
HAIII _6-8 -22	11410	6.81	1			$\times$		~ <u> </u>			1 1 7		directed.
HAILL 8-10'-23	1415	8-10				$\overline{}$	in francisco	terretorium de terres				1 O PCBS	
HAIII 10-17' 20	1970	117-17	internal level environ			Q+-	- durania de					10,100,	
HAIII 6-8 -22 HAIII 3-10 -23 HAIII 10-12 -24 HAIII 12-14 -25 HAIII 14-16-26 HAIII 16-18-27	1 112	10 12				$\langle - \rangle$	-				<u> </u>		
17111-12 19 -23	11430	12-11		···		$\Delta \perp$		oueneele		1000 147 1140 11 110-1440 1-14-4	<u> </u>		
14111 - 14-10-56	1 1990	14-16				$\searrow$							
HitIII _ 16-18 -27	1 1520	16-18	し	Milan		<b>&gt;</b> -		12	to and do				
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Lelinquished by	Received by				-	4					Preservative	Evidence samples were tamp	ered with? YES NO
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rint	Print		Γ				PRESE	RVATIO	N KEY	*****			······································
irm	Firm		Į,	A Sample	chilled	C NaOH		E H <sub>2</sub> SC	) <sub>4</sub>	G Methar	ol	and the second section of the second	(*************************************
ate Time	Date	Time	li li	B Sample	filtered	p HNO <sub>3</sub>		F HCL			NaHSO4 (circle)	en-paris-paristry Aje-o-reference over-veco-eff-inf-i	
					Certainty Da		(Laborato		pplicable I			<del></del>	
Presumptive Certainty Data Packag												Required Reporting Limits a	nd Data Quality Objectives
The required minimum fiel	ld QC samples, as design	ated in BWSC	CAM-VII hav	ve been or	will be collec	ted, as appro	opriate, to	meet the re	quirements o	of Presumpti	ve Certainty.	1	
Martin College College	s for MCP Metals and/or											54c-s1	□ s1 □ GW1
Matrix Spike (MS) sample	and formation			not include	samples defi	ned as Drink	ung Water	Samples.				□ RC-S2	□ S2 □ GW2
Matrix Spike (MS) sample This Chain of Custody Rec		_includes						-				[7] no one	
Matrix Spike (MS) sample This Chain of Custody Rec  If this Chain of Custody Re	ecord identifies samples	lefined as Drin	king Water Sa		ip Blanks and	Field Dupli	cates are is	-	l identified :	and analysis	of TICs are required,	□ RC-GW1	□ S3 □ GW3
Matrix Spike (MS) sample This Chain of Custody Rec	ecord identifies samples	lefined as Drin			ip Blanks and	Field Dupli	cates are is	-	identified	and analysis	of TICs are required,	□ RC-GW1 □ RC-GW2	

Form 3003

M96200: Chain of Custody

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# Frank D'Agostino

Parkin Kullmann, Jane [jkullmann@haleyaldrich.com] From:

Monday, December 13, 2010 2:14 PM Sent:

Frank D'Agostino ë Subject: Energy International PCB soil analyses follow-up

those sample locations specifically (i.e., HA-111, HA-112, and HA-113), as well as the additional samples that we are analyzing for PCBs from 0-2 and 2-4 ft bgs from those same boring locations. For any other boring locations where the results were not yet reported, we would just like to report the results for PCB analyses of soil from 0-I talked with my Project Manager for the Energy International project again, and he thought since the analyses were already conducted, that we should include in the report the results for the samples 8 feet and below for 2 and 2-4 ft bgs.

Let me know if you have any further questions or need any clarification about the analyses.

Thanks,

Jane A. Parkin Kullmann Staff Engineer

HALEY & ALDRICH
465 Medford Street, Suite 2200
Boston, MA 02129-1400
Tel: 617.886.7354
Tex: 617.886.7654
Cell: 847.370.3018
Email: jkullmann@HaleyAldrich.com

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12/13/2010



### Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup

WSC-CAM	Exhibit VII A
July 1, 2010	Revision No. 1
Final	Page 13 of 38

### Exhibit VII A-2: MassDEP Analytical Protocol Certification Form

		Ma	assDEP Analytical	Protocol Certif	icatio	n Form				
Labor	atory Name:	Accutest Laboratori	es of New England			Project #:	M962	00		
Projec	ct Location:	Former Energy Inte	rnational Parcel, MA			MADEP RTN	None			
	M96200-1,M96200-1	ations for the following 0,M96200-11,M9620 -19,M96200-2,M9620	0-13,M96200-14,M9	6200-15,M9620	0-16,1	M96200-17, M9620				196200-
Matric	es: Groundwate	r/Surface Water ()	Soil/Sediment (X	) Drinking Water	()	Air ()			Other	()
CAM	Protocol (check all that	apply below):								
	8260 VOC () 7470/7471 Hg () MassDEP VPH () 8081 Pesticides () 7196 Hex Cr CAM IIA CAM III B CAM IV A CAM V B CAM V B								Mass DEP APH CAM IX A	()
	8270 SVOC () CAM II B	7010 Metals ()	CAM IV B	CAM V C	( )	8330 Explosives CAM VIII A	()		TO-15 VOC CAM IX B	()
	6010 Metals ( ) CAM III A	6020 Metals () CAM III D	8082 PCB (X CAM V A	) 9014 Total Cyanide/PAC CAM VI A	()	6860 Perchlorate CAM VIII B	()			
	Affirmative Respon	ses to Questions A	Through F are requ	ired for "Presi	umptiv	e Certainty statu	s			
Α	properly preserved (i method holding time:		e) in the field or labor	atory, and prepa	ared/a	nalyzed within	<b>V</b>	Yes	☐ No	
В	protocol(s) followed?	method(s) and all ass	·	·			<b>V</b>	Yes	☐ No	
	•	rrective actions and a nted for all identified p	•	•		Selected CAM	<b>V</b>	Yes	□No	
D	•	report comply with all and Quality Control Go al Data"?		•	d in CA	M VII A,	<b>V</b>	Yes	□No	
E		d TO-15 only: PH Methods only: Water to the individual m					<b>V</b>	Yes	□No	
	b. APH and TO-15 M	lethods only: Was th	e complete analyte li	st reported for e	each m	nethod?	7	Yes	□No	
	• •	CAM protocol QC and boratory narrative (in	•				✓	Yes	□No	
	Responses to ques	tions G, H, and I be	low is required for '	'Presumptive (	Certaiı	nty" status				
	Were the reporting li	mits at or below all Co	AM reporting limits sp	pecified in the			<b>V</b>	Yes	☐ No ¹	
	and representative	nta that achieve "Pre ness requirements o	lescribed in 310 CN	IR 40.1056(2)(k	and	•	data	ıseab		
		nance standards spec d for the complete an				otopol(s)?	<u> </u>	Yes Yes	<u> </u>	
1		ses must be addres	•			` ,		res	□ NO ·	
I the i	undersigned, attest ry of those respons	under the pains and ible for obtaining the best of my knowle	d penalties of perjuite information, the r	ry that, based naterial contai	upon in	my personal				
Signa	1	or fall		Position:	<u>-</u>	boratory Director				
Printe	ed Name:	Reza Tand		Date:		12/18/2010				



Haley & Aldrich

Job No: M96200

Sample Number	Method	Analyzed	Ву	Prepped	Ву	Test Codes
M96200-1 HA112_0-2	Collected: 29-NOV-10	08:00 By: MD	Receiv	ved: 29-NOV	-10 By	r: JB
	SM21 2540 B MOD. SW846 8082	13-DEC-10 15-DEC-10 09:47	HS CZ	13-DEC-10	AJ	% SOL P8082SOXHLET
M96200-2 HA112_2-4	Collected: 29-NOV-10	08:05 By: MD	Receiv	ved: 29-NOV	-10 By	: JB
	SM21 2540 B MOD. SW846 8082	13-DEC-10 15-DEC-10 10:01	HS CZ	13-DEC-10	AJ	% SOL P8082SOXHLET
M96200-4 HA112_6-8	Collected: 29-NOV-10	08:50 By: MD	Receiv	ved: 29-NOV	-10 By	: JB
	SM21 2540 B MOD. SW846 8082	03-DEC-10 06-DEC-10 01:44	HS AP	02-DEC-10	AJ	% SOL P8082SOXHLET
M96200-5 HA112_8-1	Collected: 29-NOV-10 0'	09:15 By: MD	Receiv	ved: 29-NOV	-10 By	: JB
	SM21 2540 B MOD. SW846 8082	01-DEC-10 06-DEC-10 15:05	HS AP	02-DEC-10	AJ	% SOL P8082SOXHLET
M96200-6 HA112_10-	Collected: 29-NOV-10	09:20 By: MD	Receiv	ved: 29-NOV	-10 By	: JB
	SM21 2540 B MOD. SW846 8082	01-DEC-10 05-DEC-10 19:21	HS AP	02-DEC-10	AJ	% SOL P8082SOXHLET
M96200-7 HA112_14-	Collected: 29-NOV-10 16.5'	09:40 By: MD	Receiv	ved: 29-NOV	-10 By	r: JB
	SM21 2540 B MOD. SW846 8082	01-DEC-10 06-DEC-10 13:58	HS AP	02-DEC-10	AJ	% SOL P8082SOXHLET
M96200-8 HA112_16.	Collected: 29-NOV-10 5-18.0'	09:55 By: MD	Receiv	ved: 29-NOV	-10 By	r: JB
M96200-8	SM21 2540 B MOD.	01-DEC-10	HS			% SOL

Haley & Aldrich

Job No: M96200

Sample Number	Method	Analyzed	Ву	Prepped	Ву	Test Codes
M96200-8	SW846 8082	05-DEC-10 19:44	AP	02-DEC-10	AJ	P8082SOXHLET
M96200-9 HA113_0-2		11:10 By: MD	Receiv	ed: 29-NOV	-10 By	: JB
M96200-9	SM21 2540 B MOD. SW846 8082 SW846 8082	13-DEC-10 15-DEC-10 10:23 16-DEC-10 03:07		13-DEC-10 13-DEC-10		% SOL P8082SOXHLET P8082SOXHLET
M96200-10 HA112_12-	Collected: 29-NOV-10 14'	09:35 By: MD	Receiv	ed: 29-NOV	-10 By	: JB
	SM21 2540 B MOD. SW846 8082	01-DEC-10 05-DEC-10 20:06	HS AP	02-DEC-10	AJ	% SOL P8082SOXHLET
M96200-11 HA113_2-4	Collected: 29-NOV-10	11:00 By: MD	Receiv	red: 29-NOV	-10 By	: ЈВ
	SM21 2540 B MOD. SW846 8082	13-DEC-10 15-DEC-10 10:37	HS CZ	13-DEC-10	AJ	% SOL P8082SOXHLET
M96200-13 HA113_6-8	Collected: 29-NOV-10	11:20 By: MD	Receiv	red: 29-NOV	-10 By	: ЈВ
	SM21 2540 B MOD. SW846 8082	03-DEC-10 06-DEC-10 02:06	HS AP	02-DEC-10	AJ	% SOL P8082SOXHLET
M96200-14 HA113_8-1	Collected: 29-NOV-10 0'	12:10 By: MD	Receiv	ed: 29-NOV	-10 By	: ЈВ
	SM21 2540 B MOD. SW846 8082	01-DEC-10 05-DEC-10 21:14	HS AP	02-DEC-10	AJ	% SOL P8082SOXHLET
M96200-15 HA113_10-	Collected: 29-NOV-10 12'	12:00 By: MD	Receiv	red: 29-NOV	-10 By	: JB
	SM21 2540 B MOD. SW846 8082	01-DEC-10 05-DEC-10 20:29	HS AP	02-DEC-10	AJ	% SOL P8082SOXHLET

Haley & Aldrich

Job No: M96200

Sample Number	Method	Analyzed	Ву	Prepped	Ву	Test Codes
M96200-16 HA113_12-	Collected: 29-NOV-10	12:25 By: MD	Receiv	ved: 29-NOV	-10 By	7: JB
	SM21 2540 B MOD. SW846 8082	01-DEC-10 05-DEC-10 21:36	HS AP	02-DEC-10	AJ	% SOL P8082SOXHLET
M96200-17 HA113_14-	Collected: 29-NOV-10 15.5'	12:20 By: MD	Receiv	ved: 29-NOV	-10 By	y: JB
	SM21 2540 B MOD. SW846 8082	01-DEC-10 05-DEC-10 21:59	HS AP	02-DEC-10	AJ	% SOL P8082SOXHLET
M96200-18 HA113_15.	Collected: 29-NOV-10 5-18.0'	13:00 By: MD	Receiv	ved: 29-NOV	-10 By	y: JB
	SM21 2540 B MOD. SW846 8082	01-DEC-10 05-DEC-10 22:21	HS AP	02-DEC-10	AJ	% SOL P8082SOXHLET
M96200-19 HA111_0-2	Collected: 29-NOV-10	13:40 By: MD	Receiv	ved: 29-NOV	-10 By	/: JB
M96200-19	SM21 2540 B MOD. SW846 8082 SW846 8082	13-DEC-10 16-DEC-10 03:29 16-DEC-10 20:47		13-DEC-10 13-DEC-10		% SOL P8082SOXHLET P8082SOXHLET
M96200-20 HA111_2-4	Collected: 29-NOV-10	13:30 By: MD	Receiv	ved: 29-NOV	-10 By	7: JB
	SM21 2540 B MOD. SW846 8082	13-DEC-10 16-DEC-10 21:44	HS CZ	13-DEC-10	AJ	% SOL P8082SOXHLET
M96200-22 HA111_6-8	Collected: 29-NOV-10	14:10 By: MD	Receiv	ved: 29-NOV	-10 By	7: JB
	SM21 2540 B MOD. SW846 8082	03-DEC-10 06-DEC-10 02:29	HS AP	02-DEC-10	AJ	% SOL P8082SOXHLET

Haley & Aldrich

Job No: M96200

Sample Number	Method	Analyzed	Ву	Prepped	Ву	Test Codes
M96200-23 HA111_8-1	Collected: 29-NOV-10	14:15 By: MD	Receiv	ved: 29-NOV	-10 By	:: JB
	SM21 2540 B MOD. SW846 8082	01-DEC-10 05-DEC-10 22:44	HS AP	02-DEC-10	AJ	% SOL P8082SOXHLET
M96200-24 HA111_10-	Collected: 29-NOV-10	14:20 By: MD	Receiv	ved: 29-NOV	-10 By	: JB
	SM21 2540 B MOD. SW846 8082	01-DEC-10 05-DEC-10 23:06	HS AP	02-DEC-10	AJ	% SOL P8082SOXHLET
M96200-25 HA111_12-	Collected: 29-NOV-10	14:30 By: MD	Receiv	ved: 29-NOV	-10 By	: ЈВ
	SM21 2540 B MOD. SW846 8082	01-DEC-10 05-DEC-10 23:29	HS AP	02-DEC-10	AJ	% SOL P8082SOXHLET
M96200-26 HA111_14-	Collected: 29-NOV-10	14:40 By: MD	Receiv	ved: 29-NOV	-10 By	: JB
	SM21 2540 B MOD. SW846 8082	01-DEC-10 05-DEC-10 23:51	HS AP	02-DEC-10	AJ	% SOL P8082SOXHLET
M96200-27 HA111_16-	Collected: 29-NOV-10	15:20 By: MD	Receiv	ved: 29-NOV	-10 By	: ЈВ
	SM21 2540 B MOD. SW846 8082	01-DEC-10 06-DEC-10 00:14	HS AP	02-DEC-10	AJ	% SOL P8082SOXHLET





# GC Semi-volatiles

# QC Data Summaries

# Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries



**Method:** SW846 8082

# **Method Blank Summary**

Job Number: M96200

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA **Project:** 

Sample OP23507-MB	File ID BE22733.D	<b>DF</b> 1	<b>Analyzed</b> 12/05/10	By AP	Prep Date 12/02/10	Prep Batch OP23507	Analytical Batch GBE1365

### The QC reported here applies to the following samples:

M96200-4, M96200-5, M96200-6, M96200-7, M96200-8, M96200-10, M96200-13, M96200-14, M96200-15, M96200-16, M96200-17, M96200-18, M96200-22, M96200-23, M96200-24, M96200-25, M96200-26, M96200-27

CAS No.	Compound	Result	RL	Units Q
12674-11-2	Aroclor 1016	ND	99	ug/kg
11104-28-2	Aroclor 1221	ND	99	ug/kg
11141-16-5	Aroclor 1232	ND	99	ug/kg
53469-21-9	Aroclor 1242	ND	99	ug/kg
12672-29-6	Aroclor 1248	ND	99	ug/kg
11097-69-1	Aroclor 1254	ND	99	ug/kg
11096-82-5	Aroclor 1260	ND	99	ug/kg
37324-23-5	Aroclor 1262	ND	99	ug/kg
11100-14-4	Aroclor 1268	ND	99	ug/kg

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	103%	30-150%
877-09-8	Tetrachloro-m-xylene	101%	30-150%
2051-24-3	Decachlorobiphenyl	102%	30-150%
2051-24-3	Decachlorobiphenyl	99%	30-150%



**Method:** SW846 8082

# C

# **Method Blank Summary**

Job Number: M96200

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	<b>Analytical Batch</b>
OP23621-MB	YZ62990.D	1	12/15/10	CZ	12/13/10	OP23621	GYZ2675

### The QC reported here applies to the following samples:

M96200-1, M96200-2, M96200-9, M96200-11, M96200-19, M96200-20

CAS No.	Compound	Result	RL	Units Q
12674-11-2	Aroclor 1016	ND	98	ug/kg
11104-28-2	Aroclor 1221	ND	98	ug/kg
11141-16-5	Aroclor 1232	ND	98	ug/kg
53469-21-9	Aroclor 1242	ND	98	ug/kg
12672-29-6	Aroclor 1248	ND	98	ug/kg
11097-69-1	Aroclor 1254	ND	98	ug/kg
11096-82-5	Aroclor 1260	ND	98	ug/kg
37324-23-5	Aroclor 1262	ND	98	ug/kg
11100-14-4	Aroclor 1268	ND	98	ug/kg

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	93%	30-150%
877-09-8	Tetrachloro-m-xylene	91%	30-150%
2051-24-3	Decachlorobiphenyl	97%	30-150%
2051-24-3	Decachlorobiphenyl	98%	30-150%



**Method:** SW846 8082

# **Blank Spike Summary**

Job Number: M96200

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA **Project:** 

Sample OP23621-BS	File ID YZ62991.D	<b>DF</b> 1	<b>Analyzed</b> 12/15/10	By CZ	<b>Prep Date</b> 12/13/10	Prep Batch OP23621	Analytical Batch GYZ2675

### The QC reported here applies to the following samples:

M96200-1, M96200-2, M96200-9, M96200-11, M96200-19, M96200-20

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
12674-11-2	Aroclor 1016	251	257	103	40-140
11104-28-2	Aroclor 1221		ND		40-140
11141-16-5	Aroclor 1232		ND		40-140
53469-21-9	Aroclor 1242		ND		40-140
12672-29-6	Aroclor 1248		ND		40-140
11097-69-1	Aroclor 1254		ND		40-140
11096-82-5	Aroclor 1260	251	268	107	40-140
37324-23-5	Aroclor 1262		ND		40-140
11100-14-4	Aroclor 1268		ND		40-140

CAS No.	<b>Surrogate Recoveries</b>	BSP	Limits
877-09-8	Tetrachloro-m-xylene	94%	30-150%
877-09-8	Tetrachloro-m-xylene	95%	30-150%
2051-24-3	Decachlorobiphenyl	98%	30-150%
2051-24-3	Decachlorobiphenyl	99%	30-150%



**Method:** SW846 8082

# Blank Spike/Blank Spike Duplicate Summary

**Job Number:** M96200

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	<b>DF</b> 1 1	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP23507-BS	BE22734.D		12/05/10	AP	12/02/10	OP23507	GBE1365
OP23507-BSD	BE22735.D		12/05/10	AP	12/02/10	OP23507	GBE1365

### The QC reported here applies to the following samples:

 $M96200-4,\ M96200-5,\ M96200-6,\ M96200-7,\ M96200-8,\ M96200-10,\ M96200-13,\ M96200-14,\ M96200-15,\ M96200-16,\ M96200-18,\ M96200-22,\ M96200-23,\ M96200-24,\ M96200-25,\ M96200-26,\ M96200-27$ 

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	265	279	105	280	106	0	40-140/30
11104-28-2	Aroclor 1221		ND		ND		nc	40-140/30
11141-16-5	Aroclor 1232		ND		ND		nc	40-140/30
53469-21-9	Aroclor 1242		ND		ND		nc	40-140/30
12672-29-6	Aroclor 1248		ND		ND		nc	40-140/30
11097-69-1	Aroclor 1254		ND		ND		nc	40-140/30
11096-82-5	Aroclor 1260	265	305	115	304	115	0	40-140/30
37324-23-5	Aroclor 1262		ND		ND		nc	40-140/30
11100-14-4	Aroclor 1268		ND		ND		nc	40-140/30

CAS No.	<b>Surrogate Recoveries</b>	BSP	BSD	Limits
877-09-8	Tetrachloro-m-xylene	112%	107%	30-150%
877-09-8	Tetrachloro-m-xylene	104%	97%	30-150%
2051-24-3	Decachlorobiphenyl	107%	108%	30-150%
2051-24-3	Decachlorobiphenyl	107%	108%	30-150%



**Method:** SW846 8082

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96200

Account: HALEYALD Haley & Aldrich

Project: Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	Ву	Prep Date	Prep Batch	Analytical Batch
OP23507-MS	BE22786.D	1	12/06/10	AP	12/02/10	OP23507	GBE1365
OP23507-MSD	BE22787.D	1	12/06/10	AP	12/02/10	OP23507	GBE1365
M96200-5	BE22788.D	1	12/06/10	AP	12/02/10	OP23507	GBE1365

### The QC reported here applies to the following samples:

M96200-4, M96200-5, M96200-6, M96200-7, M96200-8, M96200-10, M96200-13, M96200-14, M96200-15, M96200-16, M96200-17, M96200-18, M96200-22, M96200-23, M96200-24, M96200-25, M96200-26, M96200-27

CAS No. Comp	pound	M96200- ug/kg	5 Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
12674-11-2 Arocl	lor 1016	ND		299	353	118	385	129	9	40-140/50
11104-28-2 Arocl	lor 1221	ND			ND		ND		nc	40-140/50
11141-16-5 Arocl	lor 1232	ND			ND		ND		nc	40-140/50
53469-21-9 Arocl	lor 1242	ND			ND		ND		nc	40-140/50
12672-29-6 Arocl	lor 1248	ND			ND		ND		nc	40-140/50
11097-69-1 Arocl	lor 1254	ND			ND		ND		nc	40-140/50
11096-82-5 Arocl	lor 1260	57.3		299	382	103	387	105	1	40-140/50
37324-23-5 Arocl	lor 1262	ND			ND		ND		nc	40-140/50
11100-14-4 Arocl	lor 1268	ND			ND		ND		nc	40-140/50

CAS No.	<b>Surrogate Recoveries</b>	MS	MSD	M96200-5	Limits
877-09-8	Tetrachloro-m-xylene	104%	116%	99%	30-150%
877-09-8	Tetrachloro-m-xylene	109%	125%	95%	30-150%
2051-24-3	Decachlorobiphenyl	85%	81%	87%	30-150%
2051-24-3	Decachlorobiphenyl	296%* a	209% * a	254% * a	30-150%

<sup>(</sup>a) Outside control limits due to possible matrix interference.



**Method:** SW846 8082

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96200

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	Ву	Prep Date	Prep Batch	Analytical Batch
OP23621-MS	YZ62992.D	1	12/15/10	CZ	12/13/10	OP23621	GYZ2675
OP23621-MSD	YZ62993.D	1	12/15/10	CZ	12/13/10	OP23621	GYZ2675
M96200-1	YZ62994.D	1	12/15/10	CZ	12/13/10	OP23621	GYZ2675

### The QC reported here applies to the following samples:

M96200-1, M96200-2, M96200-9, M96200-11, M96200-19, M96200-20

CAS No. Compound	M96200-1 ug/kg (	~ F	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
12674-11-2 Aroclor 1016	ND	287	280	98	227	78	21	40-140/50
11104-28-2 Aroclor 1221	ND		ND		ND		nc	40-140/50
11141-16-5 Aroclor 1232	ND		ND		ND		nc	40-140/50
53469-21-9 Aroclor 1242	ND		ND		ND		nc	40-140/50
12672-29-6 Aroclor 1248	ND		ND		ND		nc	40-140/50
11097-69-1 Aroclor 1254	ND		ND		ND		nc	40-140/50
11096-82-5 Aroclor 1260	ND	287	294	102	235	81	22	40-140/50
37324-23-5 Aroclor 1262	ND		ND		ND		nc	40-140/50
11100-14-4 Aroclor 1268	ND		ND		ND		nc	40-140/50

CAS No.	<b>Surrogate Recoveries</b>	MS	MSD	M96200-1	Limits
	Tetrachloro-m-xylene	87%	83%	89%	30-150%
	Tetrachloro-m-xylene	60%	84%	77%	30-150%
	Decachlorobiphenyl	442%* <sup>a</sup>	505% * <sup>a</sup>	367% * <sup>a</sup>	30-150%
	Decachlorobiphenyl	122%	139%	126%	30-150%

<sup>(</sup>a) Outside control limits due to possible matrix interference.



# **Semivolatile Surrogate Recovery Summary**

Job Number: M96200

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Method: SW846 8082 Matrix: SO

### Samples and QC shown here apply to the above method

Lab	Lab	C1 a	<b>S1</b> b	<b>C2</b> a	<b>S2</b> b
Sample ID	File ID	S1 a	<b>S1</b> <sup>6</sup>	<b>S2</b> a	<b>52</b> <sup>6</sup>
M96200-1	YZ62994.D	89.0	77.0	367.0* <sup>c</sup>	126.0
M96200-2	YZ62995.D	77.0	77.0	734.0* <sup>c</sup>	79.0
M96200-4	BE22753.D	99.0	68.0	94.0	114.0
M96200-5	BE22788.D	99.0	95.0	87.0	254.0* c
M96200-6	BE22736.D	89.0	112.0	86.0	108.0
M96200-7	BE22785.D	112.0	119.0	98.0	115.0
M96200-8	BE22737.D	104.0	103.0	107.0	109.0
M96200-9	YZ63041.D	0.0* d	0.0* d	0.0* d	0.0* d
M96200-9	YZ62996.D	80.0	83.0	326.0* c	175.0* c
M96200-10	BE22738.D	128.0	115.0	112.0	104.0
M96200-11	YZ62997.D	83.0	78.0	184.0* <sup>c</sup>	77.0
M96200-13	BE22754.D	90.0	104.0	91.0	97.0
M96200-14	BE22741.D	133.0	132.0	116.0	122.0
M96200-15	BE22739.D	97.0	93.0	86.0	84.0
M96200-16	BE22742.D	132.0	107.0	105.0	127.0
M96200-17	BE22743.D	124.0	112.0	97.0	110.0
M96200-18	BE22744.D	111.0	114.0	109.0	146.0
M96200-19	YZ63075.D	93.0	118.0	245.0* <sup>c</sup>	136.0
M96200-19	YZ63042.D	0.0* d	0.0* d	0.0* d	0.0* d
M96200-20	YZ63077.D	93.0	89.0	162.0* <sup>c</sup>	139.0
M96200-22	BE22755.D	102.0	102.0	92.0	94.0
M96200-23	BE22745.D	134.0	135.0	114.0	138.0
M96200-24	BE22746.D	93.0	94.0	83.0	96.0
M96200-25	BE22747.D	109.0	102.0	96.0	102.0
M96200-26	BE22748.D	376.0* <sup>c</sup>	81.0	90.0	104.0
M96200-27	BE22749.D	118.0	107.0	104.0	94.0
OP23507-BS	BE22734.D	112.0	104.0	107.0	107.0
OP23507-BSD	BE22735.D	107.0	97.0	108.0	108.0
OP23507-MB	BE22733.D	103.0	101.0	102.0	99.0
OP23507-MS	BE22786.D	104.0	109.0	85.0	296.0* c
OP23507-MSD	BE22787.D	116.0	125.0	81.0	209.0* c
OP23621-BS	YZ62991.D	94.0	95.0	98.0	99.0
OP23621-MB	YZ62990.D	93.0	91.0	97.0	98.0
OP23621-MS	YZ62992.D	87.0	60.0	442.0* <sup>c</sup>	122.0
OP23621-MSD	YZ62993.D	83.0	84.0	505.0* <sup>c</sup>	139.0

Surrogate Recovery Compounds Limits

S1 = Tetrachloro-m-xylene 30-150%



Page 2 of 2

# Semivolatile Surrogate Recovery Summary

Job Number: M96200

**Account:** HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Method: SW846 8082 Matrix: SO

### Samples and QC shown here apply to the above method

Surrogate Recovery Compounds Limits

S2 = Decachlorobiphenyl 30-150%

(a) Recovery from GC signal #1

- (b) Recovery from GC signal #2
- (c) Outside control limits due to possible matrix interference.
- (d) Outside control limits due to dilution.



12/20/10



# Technical Report for

Haley & Aldrich

Former Energy International Parcel, MA

06318-502

Accutest Job Number: M96225

Sampling Date: 11/30/10

### Report to:

Haley & Aldrich

jkullmann@haleyaldrich.com

ATTN: Jane Kullmann

Total number of pages in report: 214



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Client Service contact: Kristen Blanchard 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) ISO 17025:2005 (L2235) This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories. Test results relate only to samples analyzed.



Lab Director

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# **Sample Summary**

Haley & Aldrich

Job No:

M96225

Former Energy International Parcel, MA Project No: 06318-502

	Collected Date	Time By	Received	Matri Code		Client Sample ID
M96225-1	11/30/10	08:00 MD	11/30/10	SO	Soil	HA110_0-4'
M96225-1A	11/30/10	08:00 MD	11/30/10	SO	Soil	HA110_0-4'
M96225-2	11/30/10	08:35 MD	11/30/10	SO	Soil	HA110_4-8'
M96225-2A	11/30/10	08:35 MD	11/30/10	so	Soil	HA110_4-8'
M96225-3	11/30/10	10:00 MD	11/30/10	SO	Soil	HA109_0-4'
M96225-3A	11/30/10	10:00 MD	11/30/10	SO	Soil	HA109_0-4'
M96225-4	11/30/10	10:55 MD	11/30/10	so	Soil	HA109_8-12'
M96225-4A	11/30/10	10:55 MD	11/30/10	so	Soil	HA109_8-12'
M96225-5	11/30/10	12:30 MD	11/30/10	SO	Soil	HA108_0-4'
M96225-5A	11/30/10	12:30 MD	11/30/10	SO	Soil	HA108_0-4'
M96225-6	11/30/10	13:05 MD	11/30/10	SO	Soil	HA108_4-8'
M96225-6A	11/30/10	13:05 MD	11/30/10	SO	Soil	HA108_4-8'
M96225-7	11/30/10	14:10 MD	11/30/10	SO	Soil	HA107_0-4'

Soil samples reported on a dry weight basis unless otherwise indicated on result page.





# Sample Summary (continued)

Haley & Aldrich

Job No: M96225

Former Energy International Parcel, MA Project No: 06318-502

Sample Number	Collected Date	Time By	Received	Matri Code		Client Sample ID
M96225-7A	11/30/10	14:10 MD	11/30/10	SO	Soil	HA107_0-4'
M96225-8	11/30/10	15:05 MD	11/30/10	SO	Soil	HA107_8-12'
M96225-8A	11/30/10	15:05 MD	11/30/10	SO	Soil	HA107_8-12'
M96225-8AD	11/30/10	15:05 MD	11/30/10	SO	Soil	HA107_8-12'
M96225-8AS	11/30/10	15:05 MD	11/30/10	SO	Soil	HA107_8-12'
M96225-8D	11/30/10	15:05 MD	11/30/10	SO	Soil Dup/MSD	HA107_8-12'
M96225-8S	11/30/10	15:05 MD	11/30/10	SO	Soil Matrix Spike	HA107_8-12'

Soil samples reported on a dry weight basis unless otherwise indicated on result page.





### SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Haley & Aldrich Job No M96225

Site: Former Energy International Parcel, MA Report Date 12/20/2010 1:17:51 PM

8 Sample(s) were collected on 11/30/2010 and were received at Accutest on 11/30/2010 properly preserved, at 2.3 Deg. C and intact. These Samples received an Accutest job number of M96225. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

### Volatiles by GCMS By Method SW846 8260B

Matrix: SO Batch ID: MSR663

- All samples were analyzed within the recommended method holding time.
- Sample(s) M96199-5MS, M96199-5MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Blank Spike Recovery(s) for Hexachlorobutadiene, Isopropylbenzene are outside control limits. Blank Spike meets program technical requirements.
- Matrix Spike Recovery(s) for Vinyl chloride are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- Matrix Spike Duplicate Recovery(s) for 2-Hexanone, Acetone, Carbon tetrachloride, Hexachlorobutadiene, Isopropylbenzene are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- Continuing calibration check standard MSR663-CC638 for chloromethane, trichlorofluoromethane, Tetrahydrofuran, carbon tetrachloride, dibromochloromethane, 1,1,1,2-tetrachloroethane, hexachlorobutadiene exceed 20% Difference. This check standard met MCP criteria.
- The response factor (RF) for the 2-Butanone low point in the initial calibration MSR638-ICC638 is 0.028, less than the required RF of 0.1 as noted in Table 4 of SW846 8260C. 2-Butanone is a potential differicult compound.
- Initial calibration verification MSR638-ICV638 for acetone, isopropylbenzene exceed 30% Difference.
- BSD Recovery(s) for Carbon tetrachloride, Dibromochloromethane, Tetrachloroethene, Hexachlorobutadiene, Isopropylbenzene are outside control limits. Blank Spike meets program technical requirements.



### Extractables by GCMS By Method SW846 8270C

Matrix: SO Batch ID: OP23515

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96225-8MS, M96225-8MSD were used as the QC samples indicated.
- BS, MS Recovery(s) for Benzoic acid, Hexachlorocyclopentadiene are outside control limits. Blank Spike meets program technical requirements.
- Matrix Spike Recovery(s) for Fluoranthene is outside control limits. Outside control limits due to high level in sample relative to spike amount.
- Matrix Spike Duplicate Recovery(s) for Hexachloroethane, 2-Methylnaphthalene, 3,3'-Dichlorobenzidine, Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Chrysene, Dibenzo(a,h)anthracene, Dibenzofuran, Fluorene, Indeno(1,2,3-cd)pyrene are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- RPD(s) for MSD for 2-Methylnaphthalene, 3,3'-Dichlorobenzidine, Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(b)fluoranthene, Benzo(b)fluoranthene, bis(2-Ethylhexyl)phthalate, Chrysene, Dibenzo(a,h)anthracene, Dibenzofuran, Fluorene, Indeno(1,2,3-cd)pyrene, N-Nitrosodiphenylamine, Phenanthrene, Pyrene are outside control limits for sample OP23515-MSD. High RPD due to possible matrix interference and/or sample non-homogeneity.
- Matrix Spike Recovery(s) for 3,3'-Dichlorobenzidine, Hexachloroethane, Naphthalene are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- RPD of OP23515-MSD for Fluoranthene: Outside control limits due to high level in sample relative to spike amount.
- RPD of OP23515-MSD for 2,4-Dinitrophenol: Outside control limits. Blank Spike meets program technical requirements.
- BSD, MSD Recovery(s) for Benzoic acid, 2,4-Dinitrophenol, Hexachlorocyclopentadiene are outside control limits. Blank Spike meets program technical requirements.
- Continuing calibration check standard MSS816-CC805 for bis(2-Ethylhexyl)phthalat, Di-n-octylphthalate exceed 20% Difference. This check standard met MCP criteria.
- Initial calibration verification standard MSS806-ICV805 file S19551 for Aniline, 4-Chloroaniline, 3,3'-Dichlorobenzidine, Hexachlorocyclopentadiene exceeds 30% Difference
- MSD Recovery(s) for Fluoranthene, Phenanthrene, Pyrene is outside control limits. Outside control limits due to high level in sample relative to spike amount.

### Volatiles by GC By Method MADEP VPH REV 1.1

Matrix: SO

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- M96225-2, M96225-3 for 2,5-Dibromotoluene: Outside control limits due to possible matrix interference. Confirmed by reanalysis.

Batch ID: GBH926

Only Range requested.

Matrix: SO

Batch ID: GBH929

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- M96225-2, M96225-3: Confirmation run.
- M96225-2, M96225-3 for 2,5-Dibromotoluene: Outside control limits due to possible matrix interference. Confirmed by reanalysis.
- Only range requested.

### **Extractables by GC By Method MADEP EPH REV 1.1**

Matrix: SO Batch ID: OP23506

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96225-8MS, M96225-8MSD were used as the QC samples indicated.
- MS/MSD Recovery(s) for C11-C22 Aromatics (Unadj.) are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- SOnly range requested.
- OP23506-MS for o-Terphenyl: Outside control limits due to matrix interference. Confirmed by reanalysis.
- OP23506-MS/MSD for o-Terphenyl: Outside control limits due to matrix interference. Confirmed by reanalysis.
- M96225-1, M96225-3 for o-Terphenyl: Outside control limits due to possible matrix interference.
- OP23506-BS/BSD: Aromatic breakthrough (naphthalene and/or 2-methylnaphthalene) exceeded 5% method limit. Results confirmed by refractionation.
- M96225-6 for 1-Chlorooctadecane: Outside control limits due to possible matrix interference. Confirmed by refractionation.

### Metals By Method SW846 6010C

Matrix: LEACHATE Batch ID: MP16339

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96225-8ADUP, M96225-8AMS, M96225-8ASDL were used as the QC samples for metals.

Matrix: LEACHATE Batch ID: MP16354

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96199-5ADUP, M96199-5AMS, M96199-5ASDL, M96289-4ALS were used as the QC samples for metals.

Matrix: SO Batch ID: MP16325

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96199-5DUP, M96199-5MS, M96199-5PS, M96199-5SDL, M96199-5DUP were used as the QC samples for metals
- Matrix Spike Recovery(s) for Antimony, Barium are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity. Post spike is not within acceptable range.
- Matrix Spike Recovery(s) for Lead are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- RPD(s) for Duplicate for Antimony, Barium are outside control limits for sample MP16325-D1. High RPD due to possible matrix interference and/or sample non-homogeneity.
- RPD(s) for Serial Dilution for Antimony, Selenium, Silver are outside control limits for sample MP16325-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).</p>
- MP16325-D1 for Thallium: RPD acceptable due to low duplicate and sample concentrations.
- MP16325-SD1 for Nickel, Zinc, Chromium: Serial dilution indicates possible matrix interference.

Matrix: SO Batch ID: MP16330

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96225-8DUP, M96225-8MS, M96225-8PS, M96225-8SDL, M96225-8DUP were used as the QC samples for metals.
- Matrix Spike Recovery(s) for Antimony, Lead are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity. Post spike within acceptable range.
- RPD(s) for Duplicate for Antimony are outside control limits for sample MP16330-D1. RPD acceptable due to low duplicate and sample concentrations.
- RPD(s) for Serial Dilution for Antimony are outside control limits for sample MP16330-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).</p>
- MP16330-SD1 for Zinc: Serial dilution indicates possible matrix interference.

### Metals By Method SW846 7470A

Matrix: LEACHATE Batch ID: MP16357

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96225-2ADUP, M96225-2AMS were used as the QC samples for metals.

### Metals By Method SW846 7471A

Matrix: SO Batch ID: MP16331

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96199-5DUP, M96199-5MS were used as the QC samples for metals.
- Matrix Spike Recovery(s) for Mercury are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
- RPD(s) for Duplicate for Mercury are outside control limits for sample MP16331-D1. High RPD due to possible matrix interference and/or sample non-homogeneity.

Matrix: SO Batch ID: MP16345

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96225-8DUP, M96225-8MS were used as the QC samples for metals.
- Matrix Spike Recovery(s) for Mercury are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

### Wet Chemistry By Method ASTM D1498-76M

Matrix: SO Batch ID: GN33622

- Sample(s) M96225-8DUP were used as the QC samples for Redox Potential Vs H2.
- M96225-1 through M96225-8 for Redox Potential Vs H2: Analysis requested after recommended holding time.
- GN33622-D1 for Redox Potential Vs H2: Analysis requested after recommended holding time.

### Wet Chemistry By Method SM21 2540 B MOD.

Matrix: SO Batch ID: GN33605

Sample(s) M96225-8DUP were used as the QC samples for Solids, Percent.

Matrix: SO Batch ID: GN33609

Sample(s) M96200-13DUP were used as the QC samples for Solids, Percent.

#### Wet Chemistry By Method SW846 1020

Matrix: SO Batch ID: GN33600

Sample(s) M96199-5DUP were used as the QC samples for Ignitability (Flashpoint).



### Wet Chemistry By Method SW846 CHAP7

Matrix: SO Batch ID: GN33617

Sample(s) M96225-8DUP were used as the QC samples for Corrosivity as pH.

Matrix: SO Batch ID: GP12374

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96225-8DUP, M96225-8MS were used as the QC samples for Cyanide Reactivity.

Matrix: SO Batch ID: GP12375

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96225-8DUP, M96225-8MS were used as the QC samples for Sulfide Reactivity.

Accutest may not have met all requested limits due to methodology limitations, sample matrix, dilutions, or percents solids.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety. The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report (M96225).



Sample Results	
Report of Analysis	
report of Tillary 515	



Client Sample ID: HA110\_0-4

 Lab Sample ID:
 M96225-1
 Date Sampled:
 11/30/10

 Matrix:
 SO - Soil
 Date Received:
 11/30/10

 Method:
 SW846 8260B
 Percent Solids:
 87.5

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 R18612.D 1 12/07/10 GK n/a n/a MSR663

Run #2

Initial Weight Final Volume Methanol Aliquot

Run #1 11.6 g 10.0 ml 100 ul

Run #2

### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	280	ug/kg	
71-43-2	Benzene	35.5	28	ug/kg	
108-86-1	Bromobenzene	ND	280	ug/kg	
74-97-5	Bromochloromethane	ND	280	ug/kg	
75-27-4	Bromodichloromethane	ND	110	ug/kg	
75-25-2	Bromoform	ND	110	ug/kg	
74-83-9	Bromomethane	ND	110	ug/kg	
78-93-3	2-Butanone (MEK)	ND	280	ug/kg	
104-51-8	n-Butylbenzene	ND	280	ug/kg	
135-98-8	sec-Butylbenzene	ND	280	ug/kg	
98-06-6	tert-Butylbenzene	ND	280	ug/kg	
75-15-0	Carbon disulfide	ND	280	ug/kg	
56-23-5	Carbon tetrachloride	ND	110	ug/kg	
108-90-7	Chlorobenzene	ND	110	ug/kg	
75-00-3	Chloroethane	ND	280	ug/kg	
67-66-3	Chloroform	ND	110	ug/kg	
74-87-3	Chloromethane	ND	280	ug/kg	
95-49-8	o-Chlorotoluene	ND	280	ug/kg	
106-43-4	p-Chlorotoluene	ND	280	ug/kg	
108-20-3	Di-Isopropyl ether	ND	110	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	280	ug/kg	
124-48-1	Dibromochloromethane	ND	110	ug/kg	
106-93-4	1,2-Dibromoethane	ND	110	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	110	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	110	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	110	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	110	ug/kg	
75-34-3	1,1-Dichloroethane	ND	110	ug/kg	
107-06-2	1,2-Dichloroethane	ND	110	ug/kg	
75-35-4	1,1-Dichloroethene	ND	110	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	110	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	110	ug/kg	

 $ND = \ Not \ detected$ 

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: HA110\_0-4'

Lab Sample ID: M96225-1 **Date Sampled:** 11/30/10 Matrix: SO - Soil **Date Received:** 11/30/10 Method: SW846 8260B **Percent Solids:** 87.5

Former Energy International Parcel, MA **Project:** 

### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	110	ug/kg	
142-28-9	1,3-Dichloropropane	ND	280	ug/kg	
594-20-7	2,2-Dichloropropane	ND	280	ug/kg	
563-58-6	1,1-Dichloropropene	ND	280	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	110	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	110	ug/kg	
123-91-1	1,4-Dioxane	ND	1400	ug/kg	
60-29-7	Ethyl Ether	ND	280	ug/kg	
100-41-4	Ethylbenzene	ND	110	ug/kg	
87-68-3	Hexachlorobutadiene	ND	280	ug/kg	
591-78-6	2-Hexanone	ND	280	ug/kg	
98-82-8	Isopropylbenzene	ND	280	ug/kg	
99-87-6	p-Isopropyltoluene	ND	280	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	110	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	280	ug/kg	
74-95-3	Methylene bromide	ND	280	ug/kg	
75-09-2	Methylene chloride	ND	110	ug/kg	
91-20-3	Naphthalene	357	280	ug/kg	
103-65-1	n-Propylbenzene	ND	280	ug/kg	
100-42-5	Styrene	ND	280	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	280	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	110	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	280	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	110	ug/kg	
127-18-4	Tetrachloroethene	ND	110	ug/kg	
109-99-9	Tetrahydrofuran	ND	560	ug/kg	
108-88-3	Toluene	ND	280	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	280	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	280	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	110	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	110	ug/kg	
79-01-6	Trichloroethene	ND	110	ug/kg	
75-69-4	Trichlorofluoromethane	ND	110	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	280	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	280	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	280	ug/kg	
75-01-4	Vinyl chloride	ND	110	ug/kg	
	m,p-Xylene	ND	110	ug/kg	
95-47-6	o-Xylene	ND	110	ug/kg	
1330-20-7	Xylene (total)	120	110	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$ 



Client Sample ID: HA110\_0-4'

 Lab Sample ID:
 M96225-1
 Date Sampled:
 11/30/10

 Matrix:
 SO - Soil
 Date Received:
 11/30/10

 Method:
 SW846 8260B
 Percent Solids:
 87.5

**Project:** Former Energy International Parcel, MA

### **VOA MCP List**

CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		70-130%
2037-26-5	Toluene-D8	108%		70-130%
460-00-4	4-Bromofluorobenzene	105%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ \, \text{Indicates analyte found in associated method blank}$ 



Client Sample ID: HA110\_0-4'
Lab Sample ID: M96225-1
Matrix: SO - Soil

**Method:** SW846 8270C SW846 3545

**Project:** Former Energy International Parcel, MA

Date Sampled: 11/30/10 Date Received: 11/30/10 Percent Solids: 87.5

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** S19774.D 12/07/10 PR 12/03/10 OP23515 MSS816 1 MSS818 S19788.D 10 12/07/10 PR 12/03/10 OP23515

	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2	20.1 g	1.0 ml

### **ABN MCP List**

Run #1

Run #2

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	685	570	ug/kg	
95-57-8	2-Chlorophenol	ND	280	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	570	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	570	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	570	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1100	ug/kg	
95-48-7	2-Methylphenol	ND	570	ug/kg	
	3&4-Methylphenol	ND	570	ug/kg	
88-75-5	2-Nitrophenol	ND	570	ug/kg	
100-02-7	4-Nitrophenol	ND	1100	ug/kg	
87-86-5	Pentachlorophenol	ND	570	ug/kg	
108-95-2	Phenol	ND	280	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	570	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	570	ug/kg	
83-32-9	Acenaphthene	2130	280	ug/kg	
208-96-8	Acenaphthylene	980	280	ug/kg	
98-86-2	Acetophenone	ND	570	ug/kg	
62-53-3	Aniline	ND	570	ug/kg	
120-12-7	Anthracene	5630	280	ug/kg	
56-55-3	Benzo(a)anthracene	16800 a	2800	ug/kg	
50-32-8	Benzo(a)pyrene	9720	280	ug/kg	
205-99-2	Benzo(b)fluoranthene	11000 a	2800	ug/kg	
191-24-2	Benzo(g,h,i)perylene	3880	280	ug/kg	
207-08-9	Benzo(k)fluoranthene	5560	280	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	280	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	280	ug/kg	
91-58-7	2-Chloronaphthalene	ND	280	ug/kg	
106-47-8	4-Chloroaniline	ND	570	ug/kg	
218-01-9	Chrysene	16600 a	2800	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	280	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	280	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	280	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



Client Sample ID: HA110\_0-4' Lab Sample ID: M96225-1

Matrix: SO - Soil Method: SW846 8270C SW846 3545

**Project:** Former Energy International Parcel, MA

**Date Sampled:** 11/30/10 **Date Received:** 11/30/10 **Percent Solids:** 87.5

### **ABN MCP List**

CAS No.	Compound	Result	RL	Units Q
95-50-1	1,2-Dichlorobenzene	ND	280	ug/kg
122-66-7	1,2-Diphenylhydrazine	ND	280	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	280	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	280	ug/kg
121-14-2	2,4-Dinitrotoluene	ND	570	ug/kg
606-20-2	2,6-Dinitrotoluene	ND	570	ug/kg
91-94-1	3,3'-Dichlorobenzidine	ND	280	ug/kg
53-70-3	Dibenzo(a,h)anthracene	2380	280	ug/kg
132-64-9	Dibenzofuran	1630	280	ug/kg
84-74-2	Di-n-butyl phthalate	ND	280	ug/kg
117-84-0	Di-n-octyl phthalate	ND	280	ug/kg
84-66-2	Diethyl phthalate	ND	280	ug/kg
131-11-3	Dimethyl phthalate	ND	280	ug/kg
117-81-7	bis(2-Ethylhexyl)phthalate	ND	280	ug/kg
206-44-0	Fluoranthene	31500 a	2800	ug/kg
86-73-7	Fluorene	2410	280	ug/kg
118-74-1	Hexachlorobenzene	ND	280	ug/kg
87-68-3	Hexachlorobutadiene	ND	280	ug/kg
77-47-4	Hexachlorocyclopentadiene	ND	570	ug/kg
67-72-1	Hexachloroethane	ND	280	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	4540	280	ug/kg
78-59-1	Isophorone	ND	280	ug/kg
91-57-6	2-Methylnaphthalene	1010	280	ug/kg
91-20-3	Naphthalene	2530	280	ug/kg
98-95-3	Nitrobenzene	ND	280	ug/kg
621-64-7	N-Nitroso-di-n-propylamine	ND	280	ug/kg
86-30-6	N-Nitrosodiphenylamine	ND	280	ug/kg
85-01-8	Phenanthrene	23200 a	2800	ug/kg
129-00-0	Pyrene	27200 a	2800	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	280	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	55%	61%	30-130%
4165-62-2	Phenol-d5	63%	70%	30-130%
118-79-6	2,4,6-Tribromophenol	49%	38%	30-130%
4165-60-0	Nitrobenzene-d5	60%	65%	30-130%
321-60-8	2-Fluorobiphenyl	70%	77%	30-130%
1718-51-0	Terphenyl-d14	72%	100%	30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$ 



Client Sample ID: HA110\_0-4' Lab Sample ID: M96225-1

**Date Sampled:** 11/30/10 Matrix: **Date Received:** 11/30/10 SO - Soil Method: SW846 8270C SW846 3545 **Percent Solids:** 87.5

**Project:** Former Energy International Parcel, MA

### **ABN MCP List**

Compound CAS No. Result RLUnits Q

(a) Result is from Run# 2

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



# **Report of Analysis**

Client Sample ID: HA110\_0-4' Lab Sample ID: M96225-1

Matrix: SO - Soil Method: MADEP VPH REV 1.1

**Project:** Former Energy International Parcel, MA

**Percent Solids:** 87.5

**Date Sampled:** 11/30/10

**Date Received:** 11/30/10

File ID DF **Prep Batch Analytical Batch** Analyzed By **Prep Date GBH926** Run #1 BH17792.D 1 12/06/10 AP n/an/a

Run #2

**Initial Weight Final Volume Methanol Aliquot** Run #1 11.0 ml 100 ul 11.6 g

Run #2

### **Volatile TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C5- C8 Aliphatics (Unadj.)	ND ND	6100	ug/kg	
	C9- C12 Aliphatics (Unadj.) C9- C10 Aromatics (Unadj.)	ND ND	6100 6100	ug/kg ug/kg	
	C5- C8 Aliphatics	ND	6100	ug/kg	
	C9- C12 Aliphatics	ND	6100	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limit	s
615-59-8	2,5-Dibromotoluene	96%		70-13	0%
615-59-8	2,5-Dibromotoluene	89%		70-13	0%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



#### Page 1 of 1

### **Report of Analysis**

Client Sample ID: HA110\_0-4' Lab Sample ID: M96225-1

Matrix: SO - Soil

Method: MADEP EPH REV 1.1 SW846 3550B

**Project:** Former Energy International Parcel, MA **Date Sampled:** 11/30/10 **Date Received:** 11/30/10

**Percent Solids:** 87.5

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BI2550.D	1	12/04/10	JD	12/02/10	OP23506	GBI96
D 110							

Run #2

**Final Volume Initial Weight** 

Run #1 11.8 g 2.0 ml

Run #2

#### **Extractable TPHC Ranges**

CAS No.	Compound	Result	RL	Units Q
	C11-C22 Aromatics (Unadj.) C9-C18 Aliphatics C19-C36 Aliphatics C11-C22 Aromatics	527000 21000 102000 351000	19000 9700 9700 19000	ug/kg ug/kg ug/kg ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	142% a		40-140%
321-60-8	2-Fluorobiphenyl	73%		40-140%
580-13-2	2-Bromonaphthalene	42%		40-140%
3386-33-2	1-Chlorooctadecane	70%		40-140%

(a) Outside control limits due to possible matrix interference.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



 Client Sample ID:
 HA110\_0-4'

 Lab Sample ID:
 M96225-1
 Date Sampled:
 11/30/10

 Matrix:
 SO - Soil
 Date Received:
 11/30/10

 Percent Solids:
 87.5

**Project:** Former Energy International Parcel, MA

#### **Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	<b>Prep Method</b>
Antimony	< 0.89	0.89	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Arsenic	11.7	0.89	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Barium	134	4.4	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Beryllium	0.45	0.35	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Cadmium	0.51	0.35	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Chromium	14.8	0.89	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Lead	150	0.89	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Mercury	1.3	0.070	mg/kg	2	12/03/10	12/03/10 PY	SW846 7471A <sup>1</sup>	SW846 7471A <sup>4</sup>
Nickel	18.8	3.5	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Selenium	< 0.89	0.89	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Silver	< 0.44	0.44	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Thallium	< 0.89	0.89	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Vanadium	21.3	0.89	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Zinc	167	1.8	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>

(1) Instrument QC Batch: MA12492(2) Instrument QC Batch: MA12497(3) Prep QC Batch: MP16325(4) Prep QC Batch: MP16331

Client Sample ID: HA110\_0-4' Lab Sample ID: M96225-1

 le ID:
 M96225-1
 Date Sampled:
 11/30/10

 SO - Soil
 Date Received:
 11/30/10

 Percent Solids:
 87.5

**Project:** Former Energy International Parcel, MA

### **General Chemistry**

Matrix:

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	10.7			1	12/03/10	MA	SW846 CHAP7
Cyanide Reactivity	< 1.7	1.7	mg/kg	1	12/06/10	BF	SW846 CHAP7
Ignitability (Flashpoint)	> 230		Deg. F	1	12/06/10	BF	SW846 1020
Redox Potential Vs H2 a	342		mv	1	12/03/10	MC	ASTM D1498-76M
Solids, Percent	87.5		%	1	12/02/10	HS	SM21 2540 B MOD.
Sulfide Reactivity	< 57	57	mg/kg	1	12/06/10	BF	SW846 CHAP7

(a) Analysis requested after recommended holding time.

Matrix:

## **Report of Analysis**

Page 1 of 1

Client Sample ID: HA110\_0-4' Lab Sample ID: M96225-1A

**Date Sampled:** 11/30/10 SO - Soil **Date Received:** 11/30/10 **Percent Solids:** 87.5

Project: Former Energy International Parcel, MA

### Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	<b>Prep Method</b>
Lead	0.015	D008	5.0	0.010	mg/l	1	12/09/10	12/09/10 DA	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA12508

(2) Prep QC Batch: MP16354

RL = Reporting Limit

MCL = Maximum Contamination Level (40 CFR 261 6/96)



Client Sample ID: HA110\_4-8' Lab Sample ID: M96225-2

**Matrix:** SO - Soil Method: SW846 8260B

**Project:** Former Energy International Parcel, MA

**Date Sampled:** 11/30/10 **Date Received:** 11/30/10 Percent Solids: 83.5

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 R18613.D 1 12/07/10 GKMSR663 n/an/a

Run #2

**Final Volume Methanol Aliquot Initial Weight** 

Run #1 10.0 ml 100 ul 10.6 g

Run #2

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	330	ug/kg	
71-43-2	Benzene	ND	33	ug/kg	
108-86-1	Bromobenzene	ND	330	ug/kg	
74-97-5	Bromochloromethane	ND	330	ug/kg	
75-27-4	Bromodichloromethane	ND	130	ug/kg	
75-25-2	Bromoform	ND	130	ug/kg	
74-83-9	Bromomethane	ND	130	ug/kg	
78-93-3	2-Butanone (MEK)	ND	330	ug/kg	
104-51-8	n-Butylbenzene	ND	330	ug/kg	
135-98-8	sec-Butylbenzene	ND	330	ug/kg	
98-06-6	tert-Butylbenzene	ND	330	ug/kg	
75-15-0	Carbon disulfide	ND	330	ug/kg	
56-23-5	Carbon tetrachloride	ND	130	ug/kg	
108-90-7	Chlorobenzene	ND	130	ug/kg	
75-00-3	Chloroethane	ND	330	ug/kg	
67-66-3	Chloroform	ND	130	ug/kg	
74-87-3	Chloromethane	ND	330	ug/kg	
95-49-8	o-Chlorotoluene	ND	330	ug/kg	
106-43-4	p-Chlorotoluene	ND	330	ug/kg	
108-20-3	Di-Isopropyl ether	ND	130	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	330	ug/kg	
124-48-1	Dibromochloromethane	ND	130	ug/kg	
106-93-4	1,2-Dibromoethane	ND	130	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	130	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	130	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	130	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	130	ug/kg	
75-34-3	1,1-Dichloroethane	ND	130	ug/kg	
107-06-2	1,2-Dichloroethane	ND	130	ug/kg	
75-35-4	1,1-Dichloroethene	ND	130	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	130	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	130	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



**Date Sampled:** 11/30/10

**Date Received:** 11/30/10

**Percent Solids:** 83.5

Client Sample ID: HA110\_4-8'
Lab Sample ID: M96225-2

Matrix: SO - Soil Method: SW846 8260B

**Project:** Former Energy International Parcel, MA

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	130	ug/kg	
142-28-9	1,3-Dichloropropane	ND	330	ug/kg	
594-20-7	2,2-Dichloropropane	ND	330	ug/kg	
563-58-6	1,1-Dichloropropene	ND	330	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	130	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	130	ug/kg	
123-91-1	1,4-Dioxane	ND	1700	ug/kg	
60-29-7	Ethyl Ether	ND	330	ug/kg	
100-41-4	Ethylbenzene	ND	130	ug/kg	
87-68-3	Hexachlorobutadiene	ND	330	ug/kg	
591-78-6	2-Hexanone	ND	330	ug/kg	
98-82-8	Isopropylbenzene	ND	330	ug/kg	
99-87-6	p-Isopropyltoluene	ND	330	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	130	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	330	ug/kg	
74-95-3	Methylene bromide	ND	330	ug/kg	
75-09-2	Methylene chloride	ND	130	ug/kg	
91-20-3	Naphthalene	ND	330	ug/kg	
103-65-1	n-Propylbenzene	ND	330	ug/kg	
100-42-5	Styrene	ND	330	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	330	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	130	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	330	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	130	ug/kg	
127-18-4	Tetrachloroethene	ND	130	ug/kg	
109-99-9	Tetrahydrofuran	ND	660	ug/kg	
108-88-3	Toluene	ND	330	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	330	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	330	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	130	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	130	ug/kg	
79-01-6	Trichloroethene	ND	130	ug/kg	
75-69-4	Trichlorofluoromethane	ND	130	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	330	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	330	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	330	ug/kg	
75-01-4	Vinyl chloride	ND	130	ug/kg	
	m,p-Xylene	ND	130	ug/kg	
95-47-6	o-Xylene	ND	130	ug/kg	
1330-20-7	Xylene (total)	ND	130	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: HA110\_4-8' Lab Sample ID: M96225-2

 Lab Sample ID:
 M96225-2
 Date Sampled:
 11/30/10

 Matrix:
 SO - Soil
 Date Received:
 11/30/10

 Method:
 SW846 8260B
 Percent Solids:
 83.5

**Project:** Former Energy International Parcel, MA

#### **VOA MCP List**

CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		70-130%
2037-26-5	Toluene-D8	108%		70-130%
460-00-4	4-Bromofluorobenzene	104%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ \, \text{Indicates analyte found in associated method blank}$ 



Client Sample ID: HA110\_4-8'
Lab Sample ID: M96225-2
Matrix: SO - Soil

**Method:** SW846 8270C SW846 3545

**Project:** Former Energy International Parcel, MA

**Date Sampled:** 11/30/10 **Date Received:** 11/30/10

Percent Solids: 83.5

 File ID
 DF
 Analyzed
 By
 Prep Date
 Prep Batch
 Analytical Batch

 Run #1
 \$19775.D
 1
 \$12/07/10
 PR
 \$12/03/10
 OP23515
 MSS816

Run #2

Initial Weight Final Volume

Run #1 20.1 g 1.0 ml

Run #2

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	600	ug/kg	
95-57-8	2-Chlorophenol	ND	300	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	600	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	600	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	600	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	ug/kg	
95-48-7	2-Methylphenol	ND	600	ug/kg	
	3&4-Methylphenol	ND	600	ug/kg	
88-75-5	2-Nitrophenol	ND	600	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	ug/kg	
87-86-5	Pentachlorophenol	ND	600	ug/kg	
108-95-2	Phenol	ND	300	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	600	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	600	ug/kg	
83-32-9	Acenaphthene	1040	300	ug/kg	
208-96-8	Acenaphthylene	625	300	ug/kg	
98-86-2	Acetophenone	ND	600	ug/kg	
62-53-3	Aniline	ND	600	ug/kg	
120-12-7	Anthracene	3470	300	ug/kg	
56-55-3	Benzo(a)anthracene	6020	300	ug/kg	
50-32-8	Benzo(a)pyrene	2510	300	ug/kg	
205-99-2	Benzo(b)fluoranthene	3660	300	ug/kg	
191-24-2	Benzo(g,h,i)perylene	1280	300	ug/kg	
207-08-9	Benzo(k)fluoranthene	3470	300	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	300	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	300	ug/kg	
91-58-7	2-Chloronaphthalene	ND	300	ug/kg	
106-47-8	4-Chloroaniline	ND	600	ug/kg	
218-01-9	Chrysene	5900	300	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	300	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	300	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	300	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



Client Sample ID: HA110\_4-8' Lab Sample ID: M96225-2

 Lab Sample ID:
 M96225-2
 Date Sampled:
 11/30/10

 Matrix:
 SO - Soil
 Date Received:
 11/30/10

 Method:
 SW846 8270C
 SW846 3545
 Percent Solids:
 83.5

**Project:** Former Energy International Parcel, MA

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units Q
95-50-1	1,2-Dichlorobenzene	ND	300	ug/kg
122-66-7	1,2-Diphenylhydrazine	ND	300	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	300	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	300	ug/kg
121-14-2	2,4-Dinitrotoluene	ND	600	ug/kg
606-20-2	2,6-Dinitrotoluene	ND	600	ug/kg
91-94-1	3,3'-Dichlorobenzidine	ND	300	ug/kg
53-70-3	Dibenzo(a,h)anthracene	942	300	ug/kg
132-64-9	Dibenzofuran	904	300	ug/kg
84-74-2	Di-n-butyl phthalate	ND	300	ug/kg
117-84-0	Di-n-octyl phthalate	ND	300	ug/kg
84-66-2	Diethyl phthalate	ND	300	ug/kg
131-11-3	Dimethyl phthalate	ND	300	ug/kg
117-81-7	bis(2-Ethylhexyl)phthalate	ND	300	ug/kg
206-44-0	Fluoranthene	10500	300	ug/kg
86-73-7	Fluorene	1630	300	ug/kg
118-74-1	Hexachlorobenzene	ND	300	ug/kg
87-68-3	Hexachlorobutadiene	ND	300	ug/kg
77-47-4	Hexachlorocyclopentadiene	ND	600	ug/kg
67-72-1	Hexachloroethane	ND	300	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	1520	300	ug/kg
78-59-1	Isophorone	ND	300	ug/kg
91-57-6	2-Methylnaphthalene	443	300	ug/kg
91-20-3	Naphthalene	1440	300	ug/kg
98-95-3	Nitrobenzene	ND	300	ug/kg
621-64-7	N-Nitroso-di-n-propylamine	ND	300	ug/kg
86-30-6	N-Nitrosodiphenylamine	ND	300	ug/kg
85-01-8	Phenanthrene	8360	300	ug/kg
129-00-0	Pyrene	7950	300	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	300	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	65%		30-130%
4165-62-2	Phenol-d5	66%		30-130%
118-79-6	2,4,6-Tribromophenol	84%		30-130%
4165-60-0	Nitrobenzene-d5	59%		30-130%
321-60-8	2-Fluorobiphenyl	75%		30-130%
1718-51-0	Terphenyl-d14	69%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



#### Page 1 of 1

### **Report of Analysis**

Client Sample ID: HA110\_4-8' Lab Sample ID: M96225-2

Matrix: SO - Soil Method: MADEP VPH REV 1.1

**Project:** Former Energy International Parcel, MA

**Date Sampled:** 11/30/10 **Date Received:** 11/30/10

Percent Solids: 83.5

	File ID	DF	Analyzed	By	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	BH17793.D	1	12/06/10	AP	n/a	n/a	GBH926
Run #2 a	BH17822.D	1	12/07/10	WS	n/a	n/a	GBH929

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	10.6 g	11.0 ml	100 ul
Run #2	9.39 g	11.0 ml	100 ul

#### **Volatile TPHC Ranges**

CAS No.	Compound	Result	RL	Units Q
	C5- C8 Aliphatics (Unadj.) C9- C12 Aliphatics (Unadj.) C9- C10 Aromatics (Unadj.) C5- C8 Aliphatics C9- C12 Aliphatics	ND ND ND ND ND	7200 7200 7200 7200 7200 7200	ug/kg ug/kg ug/kg ug/kg ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
615-59-8 615-59-8	2,5-Dibromotoluene 2,5-Dibromotoluene	70% 66% <sup>b</sup>	62% b 56% b	70-130% 70-130%

(a) Confirmation run.

(b) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

ND = Not detected RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



#### Page 1 of 1

### **Report of Analysis**

**Date Sampled:** 11/30/10

**Date Received:** 11/30/10

Client Sample ID: HA110\_4-8' Lab Sample ID: M96225-2

Matrix: SO - Soil Method: MADEP EPH REV 1.1 SW846 3550B

**Project:** Former Energy International Parcel, MA

Percent Solids: 83.5

File ID DF **Prep Date Analytical Batch** Analyzed By **Prep Batch** GBI96 Run #1 BI2552.D 1 12/05/10 JD 12/02/10 OP23506

Run #2

**Initial Weight Final Volume** 

Run #1 2.0 ml 12.0 g

Run #2

#### **Extractable TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C11-C22 Aromatics (Unadj.) C9-C18 Aliphatics C19-C36 Aliphatics C11-C22 Aromatics	183000 27200 106000 154000	20000 10000 10000 20000	ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limit	s
84-15-1 321-60-8	o-Terphenyl 2-Fluorobiphenyl	98% 103%		40-14 40-14	
580-13-2 3386-33-2	2-Bromonaphthalene 1-Chlorooctadecane	99% 51%		40-14 40-14	0%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: HA110\_4-8'
Lab Sample ID: M96225-2
Matrix: SO - Soil

**Date Sampled:** 11/30/10 **Date Received:** 11/30/10 **Percent Solids:** 83.5

**Project:** Former Energy International Parcel, MA

#### **Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	< 0.86	0.86	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Arsenic	14.1	0.86	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Barium	147	4.3	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Beryllium	0.47	0.34	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Cadmium	0.65	0.34	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Chromium	17.5	0.86	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Lead	319	0.86	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Mercury	4.8	0.36	mg/kg	10	12/03/10	12/03/10 PY	SW846 7471A <sup>1</sup>	SW846 7471A <sup>4</sup>
Nickel	20.6	3.4		1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Selenium	0.95	0.86	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Silver	0.73	0.43	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Thallium	< 0.86	0.86	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Vanadium	27.0	0.86	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Zinc	237	1.7	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>

(1) Instrument QC Batch: MA12492(2) Instrument QC Batch: MA12497(3) Prep QC Batch: MP16325(4) Prep QC Batch: MP16331

Page 1 of 1

Client Sample ID: HA110\_4-8'
Lab Sample ID: M96225-2
Matrix: SO - Soil

Date Sampled: 11/30/10Date Received: 11/30/10Percent Solids: 83.5

**Project:** Former Energy International Parcel, MA

### **General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	8.7			1	12/03/10	MA	SW846 CHAP7
Cyanide Reactivity	< 1.8	1.8	mg/kg	1	12/06/10	BF	SW846 CHAP7
Ignitability (Flashpoint)	> 230		Deg. F	1	12/06/10	BF	SW846 1020
Redox Potential Vs H2 a	385		mv	1	12/03/10	MC	ASTM D1498-76M
Solids, Percent	83.5		%	1	12/02/10	HS	SM21 2540 B MOD.
Sulfide Reactivity	< 60	60	mg/kg	1	12/06/10	BF	SW846 CHAP7

(a) Analysis requested after recommended holding time.

# ω

## **Report of Analysis**

Client Sample ID: HA110\_4-8'
Lab Sample ID: M96225-2A
Matrix: SO - Soil

**Date Sampled:** 11/30/10 **Date Received:** 11/30/10 **Percent Solids:** 83.5

**Project:** Former Energy International Parcel, MA

### Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW# MC	L RL	Units	DF	Prep	Analyzed By	Method	<b>Prep Method</b>
Lead	0.94	D008 5.0	0.010	mg/l	1	12/09/10	12/09/10 DA	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Mercury	< 0.00020	D009 0.20	0.0002	0 mg/1	1	12/09/10	12/09/10 MA	SW846 7470A <sup>1</sup>	SW846 7470A <sup>4</sup>

(1) Instrument QC Batch: MA12507(2) Instrument QC Batch: MA12508(3) Prep QC Batch: MP16354(4) Prep QC Batch: MP16357

RL = Reporting Limit

MCL = Maximum Contamination Level (40 CFR 261 6/96)



Client Sample ID: HA109\_0-4' Lab Sample ID: M96225-3

Matrix: SO - Soil Method: SW846 8260B

**Project:** Former Energy International Parcel, MA

Date Sampled: 11/30/10 Date Received: 11/30/10 Percent Solids: 88.8

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 R18632.D 1 12/07/10 GK n/a n/a MSR663

Run #2

Initial Weight Final Volume Methanol Aliquot

Run #1 9.39 g 10.0 ml 100 ul

Run #2

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units Q	)
67-64-1	Acetone	ND	330	ug/kg	
71-43-2	Benzene	74.5	33	ug/kg	
108-86-1	Bromobenzene	ND	330	ug/kg	
74-97-5	Bromochloromethane	ND	330	ug/kg	
75-27-4	Bromodichloromethane	ND	130	ug/kg	
75-25-2	Bromoform	ND	130	ug/kg	
74-83-9	Bromomethane	ND	130	ug/kg	
78-93-3	2-Butanone (MEK)	ND	330	ug/kg	
104-51-8	n-Butylbenzene	ND	330	ug/kg	
135-98-8	sec-Butylbenzene	ND	330	ug/kg	
98-06-6	tert-Butylbenzene	ND	330	ug/kg	
75-15-0	Carbon disulfide	ND	330	ug/kg	
56-23-5	Carbon tetrachloride	ND	130	ug/kg	
108-90-7	Chlorobenzene	ND	130	ug/kg	
75-00-3	Chloroethane	ND	330	ug/kg	
67-66-3	Chloroform	ND	130	ug/kg	
74-87-3	Chloromethane	ND	330	ug/kg	
95-49-8	o-Chlorotoluene	ND	330	ug/kg	
106-43-4	p-Chlorotoluene	ND	330	ug/kg	
108-20-3	Di-Isopropyl ether	ND	130	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	330	ug/kg	
124-48-1	Dibromochloromethane	ND	130	ug/kg	
106-93-4	1,2-Dibromoethane	ND	130	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	130	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	130	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	130	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	130	ug/kg	
75-34-3	1,1-Dichloroethane	ND	130	ug/kg	
107-06-2	1,2-Dichloroethane	ND	130	ug/kg	
75-35-4	1,1-Dichloroethene	ND	130	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	130	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	130	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



W

**Date Sampled:** 11/30/10

**Date Received:** 11/30/10

Percent Solids: 88.8

Client Sample ID: HA109\_0-4'
Lab Sample ID: M96225-3

Matrix: SO - Soil Method: SW846 8260B

**Project:** Former Energy International Parcel, MA

# VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	130	ug/kg	
142-28-9	1,3-Dichloropropane	ND	330	ug/kg	
594-20-7	2,2-Dichloropropane	ND	330	ug/kg	
563-58-6	1,1-Dichloropropene	ND	330	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	130	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	130	ug/kg	
123-91-1	1,4-Dioxane	ND	1700	ug/kg	
60-29-7	Ethyl Ether	ND	330	ug/kg	
100-41-4	Ethylbenzene	ND	130	ug/kg	
87-68-3	Hexachlorobutadiene	ND	330	ug/kg	
591-78-6	2-Hexanone	ND	330	ug/kg	
98-82-8	Isopropylbenzene	ND	330	ug/kg	
99-87-6	p-Isopropyltoluene	ND	330	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	130	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	330	ug/kg	
74-95-3	Methylene bromide	ND	330	ug/kg	
75-09-2	Methylene chloride	ND	130	ug/kg	
91-20-3	Naphthalene	2080	330	ug/kg	
103-65-1	n-Propylbenzene	ND	330	ug/kg	
100-42-5	Styrene	ND	330	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	330	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	130	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	330	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	130	ug/kg	
127-18-4	Tetrachloroethene	ND	130	ug/kg	
109-99-9	Tetrahydrofuran	ND	660	ug/kg	
108-88-3	Toluene	ND	330	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	330	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	330	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	130	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	130	ug/kg	
79-01-6	Trichloroethene	ND	130	ug/kg	
75-69-4	Trichlorofluoromethane	ND	130	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	330	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	330	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	330	ug/kg	
75-01-4	Vinyl chloride	ND	130	ug/kg	
	m,p-Xylene	ND	130	ug/kg	
95-47-6	o-Xylene	ND	130	ug/kg	
1330-20-7	Xylene (total)	154	130	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



Page 3 of 3

Client Sample ID: HA109\_0-4'

 Lab Sample ID:
 M96225-3
 Date Sampled:
 11/30/10

 Matrix:
 SO - Soil
 Date Received:
 11/30/10

 Method:
 SW846 8260B
 Percent Solids:
 88.8

**Project:** Former Energy International Parcel, MA

#### **VOA MCP List**

CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		70-130%
2037-26-5	Toluene-D8	114%		70-130%
460-00-4	4-Bromofluorobenzene	111%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ \, \text{Indicates analyte found in associated method blank}$ 

N = Indicates presumptive evidence of a compound



63

Client Sample ID: HA109\_0-4'
Lab Sample ID: M96225-3
Matrix: SO - Soil

**Method:** SW846 8270C SW846 3545

**Project:** Former Energy International Parcel, MA

1.0 ml

**Date Sampled:** 11/30/10 **Date Received:** 11/30/10

Percent Solids: 88.8

File ID **Analytical Batch** DF Analyzed By **Prep Date Prep Batch** MSS816 Run #1 S19776.D 10 12/07/10 PR 12/03/10 OP23515 Run #2

Initial Weight Final Volume

Run #1 21.0 g

Run #2

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	5400	ug/kg	
95-57-8	2-Chlorophenol	ND	2700	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	5400	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	5400	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	5400	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	11000	ug/kg	
95-48-7	2-Methylphenol	ND	5400	ug/kg	
	3&4-Methylphenol	ND	5400	ug/kg	
88-75-5	2-Nitrophenol	ND	5400	ug/kg	
100-02-7	4-Nitrophenol	ND	11000	ug/kg	
87-86-5	Pentachlorophenol	ND	5400	ug/kg	
108-95-2	Phenol	ND	2700	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	5400	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	5400	ug/kg	
83-32-9	Acenaphthene	5850	2700	ug/kg	
208-96-8	Acenaphthylene	ND	2700	ug/kg	
98-86-2	Acetophenone	ND	5400	ug/kg	
62-53-3	Aniline	ND	5400	ug/kg	
120-12-7	Anthracene	16000	2700	ug/kg	
56-55-3	Benzo(a)anthracene	42700	2700	ug/kg	
50-32-8	Benzo(a)pyrene	27400	2700	ug/kg	
205-99-2	Benzo(b)fluoranthene	20900	2700	ug/kg	
191-24-2	Benzo(g,h,i)perylene	9820	2700	ug/kg	
207-08-9	Benzo(k)fluoranthene	14800	2700	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	2700	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	2700	ug/kg	
91-58-7	2-Chloronaphthalene	ND	2700	ug/kg	
106-47-8	4-Chloroaniline	ND	5400	ug/kg	
218-01-9	Chrysene	50500	2700	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	2700	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	2700	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	2700	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



Client Sample ID: HA109\_0-4' Lab Sample ID: M96225-3

Matrix: **Date Received:** 11/30/10 SO - Soil Method: SW846 8270C SW846 3545

**Project:** Former Energy International Parcel, MA

### Percent Solids: 88.8

**Date Sampled:** 11/30/10

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units Q
95-50-1	1,2-Dichlorobenzene	ND	2700	ug/kg
122-66-7	1,2-Diphenylhydrazine	ND	2700	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	2700	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	2700	ug/kg
121-14-2	2,4-Dinitrotoluene	ND	5400	ug/kg
606-20-2	2,6-Dinitrotoluene	ND	5400	ug/kg
91-94-1	3,3'-Dichlorobenzidine	ND	2700	ug/kg
53-70-3	Dibenzo(a,h)anthracene	5730	2700	ug/kg
132-64-9	Dibenzofuran	ND	2700	ug/kg
84-74-2	Di-n-butyl phthalate	ND	2700	ug/kg
117-84-0	Di-n-octyl phthalate	ND	2700	ug/kg
84-66-2	Diethyl phthalate	ND	2700	ug/kg
131-11-3	Dimethyl phthalate	ND	2700	ug/kg
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2700	ug/kg
206-44-0	Fluoranthene	47700	2700	ug/kg
86-73-7	Fluorene	6230	2700	ug/kg
118-74-1	Hexachlorobenzene	ND	2700	ug/kg
87-68-3	Hexachlorobutadiene	ND	2700	ug/kg
77-47-4	Hexachlorocyclopentadiene	ND	5400	ug/kg
67-72-1	Hexachloroethane	ND	2700	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	9810	2700	ug/kg
78-59-1	Isophorone	ND	2700	ug/kg
91-57-6	2-Methylnaphthalene	ND	2700	ug/kg
91-20-3	Naphthalene	ND	2700	ug/kg
98-95-3	Nitrobenzene	ND	2700	ug/kg
621-64-7	N-Nitroso-di-n-propylamine	ND	2700	ug/kg
86-30-6	N-Nitrosodiphenylamine	ND	2700	ug/kg
85-01-8	Phenanthrene	57700	2700	ug/kg
129-00-0	Pyrene	55500	2700	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	2700	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	72%		30-130%
4165-62-2	Phenol-d5	70%		30-130%
118-79-6	2,4,6-Tribromophenol	57%		30-130%
4165-60-0	Nitrobenzene-d5	73%		30-130%
321-60-8	2-Fluorobiphenyl	88%		30-130%
1718-51-0	Terphenyl-d14	94%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$ 

Client Sample ID: HA109\_0-4'

 Lab Sample ID:
 M96225-3
 Date Sampled:
 11/30/10

 Matrix:
 SO - Soil
 Date Received:
 11/30/10

 Method:
 MADEP VPH REV 1.1
 Percent Solids:
 88.8

**Project:** Former Energy International Parcel, MA

	File ID	DF	Analyzed	By	<b>Prep Date</b>	Prep Batch	<b>Analytical Batch</b>
Run #1	BH17794.D	1	12/06/10	AP	n/a	n/a	GBH926
Run #2 a	BH17821.D	1	12/07/10	WS	n/a	n/a	GBH929

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	9.39 g	11.0 ml	10.0 ul
Run #2	10.6 g	11.0 ml	10.0 ul

#### **Volatile TPHC Ranges**

CAS No.	Compound	Result	RL	Units Q
	C5- C8 Aliphatics (Unadj.)	ND	72000	ug/kg
	C9- C12 Aliphatics (Unadj.)	ND	72000	ug/kg
	C9- C10 Aromatics (Unadj.)	ND	72000	ug/kg
	C5- C8 Aliphatics	ND	72000	ug/kg
	C9- C12 Aliphatics	ND	72000	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
615-59-8	2,5-Dibromotoluene	72%	64% <sup>b</sup> 58% <sup>b</sup>	70-130%
615-59-8	2,5-Dibromotoluene	63% <sup>b</sup>		70-130%

(a) Confirmation run.

(b) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

ND = Not detected RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



c

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#### Page 1 of 1

### **Report of Analysis**

Client Sample ID: HA109\_0-4' Lab Sample ID: M96225-3

Matrix: SO - Soil

Method: MADEP EPH REV 1.1 SW846 3550B

**Project:** Former Energy International Parcel, MA **Date Sampled:** 11/30/10 **Date Received:** 11/30/10

Percent Solids: 88.8

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 BI2553.D 1 12/05/10 JD 12/02/10 OP23506 GBI96 Run #2

**Final Volume Initial Weight** 

Run #1 2.0 ml 11.4 g

Run #2

#### **Extractable TPHC Ranges**

CAS No. Compound		Result	RL	Units Q
	C11-C22 Aromatics (Unadj.) C9-C18 Aliphatics C19-C36 Aliphatics C11-C22 Aromatics	1350000 15400 255000 1130000	20000 9900 9900 20000	ug/kg ug/kg ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	ug/kg  Limits
84-15-1 321-60-8 580-13-2	o-Terphenyl 2-Fluorobiphenyl 2-Bromonaphthalene	318% <sup>a</sup> 88% 72%		40-140% 40-140% 40-140%
3386-33-2	1-Chlorooctadecane	71%		40-140%

(a) Outside control limits due to possible matrix interference.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



 Client Sample ID:
 HA109\_0-4'

 Lab Sample ID:
 M96225-3

 Date Sampled:
 11/30/10

 Matrix:
 SO - Soil

 Date Received:
 11/30/10

 Percent Solids:
 88.8

**Project:** Former Energy International Parcel, MA

#### **Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	<b>Prep Method</b>
Antimony	< 0.83	0.83	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Arsenic	7.5	0.83	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Barium	106	4.2	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Beryllium	0.48	0.33	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Cadmium	1.5	0.33	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Chromium	14.3	0.83	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Lead	288	0.83	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Mercury	1.2	0.072	mg/kg	2	12/03/10	12/03/10 PY	SW846 7471A <sup>1</sup>	SW846 7471A <sup>4</sup>
Nickel	12.3	3.3		1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Selenium	< 0.83	0.83	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Silver	< 0.42	0.42	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Thallium	< 0.83	0.83	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Vanadium	25.7	0.83	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>
Zinc	267	1.7	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>2</sup>	SW846 3050B <sup>3</sup>

(1) Instrument QC Batch: MA12492(2) Instrument QC Batch: MA12497(3) Prep QC Batch: MP16325(4) Prep QC Batch: MP16331

Page 1 of 1

Client Sample ID: HA109\_0-4'
Lab Sample ID: M96225-3
Matrix: SO - Soil

**Date Sampled:** 11/30/10 **Date Received:** 11/30/10 **Percent Solids:** 88.8

**Project:** Former Energy International Parcel, MA

### **General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	10.4			1	12/03/10	MA	SW846 CHAP7
Cyanide Reactivity	< 1.7	1.7	mg/kg	1	12/06/10	BF	SW846 CHAP7
Ignitability (Flashpoint)	> 230		Deg. F	1	12/06/10	BF	SW846 1020
Redox Potential Vs H2 <sup>a</sup>	383		mv	1	12/03/10	MC	ASTM D1498-76M
Solids, Percent	88.8		%	1	12/03/10	HS	SM21 2540 B MOD.
Sulfide Reactivity	< 56	56	mg/kg	1	12/06/10	BF	SW846 CHAP7

(a) Analysis requested after recommended holding time.

Matrix:

# **Report of Analysis**

Client Sample ID: HA109\_0-4' Lab Sample ID: M96225-3A

**Project:** Former Energy International Parcel, MA

Metals Analysis, TCLP Leachate SW846 1311

Result HW# MCL RL **Prep Method** Analyte Units DF Prep Analyzed By Method SW846 6010C <sup>1</sup> SW846 3010A <sup>2</sup> Lead 0.012 0.010 12/09/10 12/09/10 DA D008 5.0 mg/l

(1) Instrument QC Batch: MA12508(2) Prep QC Batch: MP16354

RL = Reporting Limit

MCL = Maximum Contamination Level (40 CFR 261 6/96)



MSR663

### **Report of Analysis**

By

GK

n/a

Client Sample ID: HA109\_8-12' Lab Sample ID: M96225-4

Matrix: SO - Soil Method: SW846 8260B

File ID

R18614.D

**Project:** Former Energy International Parcel, MA

DF

1

Date Sampled: 11/30/10 Date Received: 11/30/10 Percent Solids: 83.8

Prep Date Prep Batch Analytical Batch

n/a

Run #1 Run #2

Initial Weight Final Volume Methanol Aliquot

Analyzed

12/07/10

Run #1 10.8 g 10.0 ml 100 ul

Run #2

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	320	ug/kg	
71-43-2	Benzene	ND	32	ug/kg	
108-86-1	Bromobenzene	ND	320	ug/kg	
74-97-5	Bromochloromethane	ND	320	ug/kg	
75-27-4	Bromodichloromethane	ND	130	ug/kg	
75-25-2	Bromoform	ND	130	ug/kg	
74-83-9	Bromomethane	ND	130	ug/kg	
78-93-3	2-Butanone (MEK)	ND	320	ug/kg	
104-51-8	n-Butylbenzene	ND	320	ug/kg	
135-98-8	sec-Butylbenzene	ND	320	ug/kg	
98-06-6	tert-Butylbenzene	ND	320	ug/kg	
75-15-0	Carbon disulfide	ND	320	ug/kg	
56-23-5	Carbon tetrachloride	ND	130	ug/kg	
108-90-7	Chlorobenzene	ND	130	ug/kg	
75-00-3	Chloroethane	ND	320	ug/kg	
67-66-3	Chloroform	ND	130	ug/kg	
74-87-3	Chloromethane	ND	320	ug/kg	
95-49-8	o-Chlorotoluene	ND	320	ug/kg	
106-43-4	p-Chlorotoluene	ND	320	ug/kg	
108-20-3	Di-Isopropyl ether	ND	130	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	320	ug/kg	
124-48-1	Dibromochloromethane	ND	130	ug/kg	
106-93-4	1,2-Dibromoethane	ND	130	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	130	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	130	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	130	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	130	ug/kg	
75-34-3	1,1-Dichloroethane	ND	130	ug/kg	
107-06-2	1,2-Dichloroethane	ND	130	ug/kg	
75-35-4	1,1-Dichloroethene	ND	130	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	130	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	130	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: HA109\_8-12'

 Lab Sample ID:
 M96225-4
 Date Sampled:
 11/30/10

 Matrix:
 SO - Soil
 Date Received:
 11/30/10

 Method:
 SW846 8260B
 Percent Solids:
 83.8

**Project:** Former Energy International Parcel, MA

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	130	ug/kg	
142-28-9	1,3-Dichloropropane	ND	320	ug/kg	
594-20-7	2,2-Dichloropropane	ND	320	ug/kg	
563-58-6	1,1-Dichloropropene	ND	320	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	130	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	130	ug/kg	
123-91-1	1,4-Dioxane	ND	1600	ug/kg	
60-29-7	Ethyl Ether	ND	320	ug/kg	
100-41-4	Ethylbenzene	ND	130	ug/kg	
87-68-3	Hexachlorobutadiene	ND	320	ug/kg	
591-78-6	2-Hexanone	ND	320	ug/kg	
98-82-8	Isopropylbenzene	ND	320	ug/kg	
99-87-6	p-Isopropyltoluene	ND	320	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	130	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	320	ug/kg	
74-95-3	Methylene bromide	ND	320	ug/kg	
75-09-2	Methylene chloride	ND	130	ug/kg	
91-20-3	Naphthalene	1540	320	ug/kg	
103-65-1	n-Propylbenzene	ND	320	ug/kg	
100-42-5	Styrene	ND	320	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	320	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	130	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	320	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	130	ug/kg	
127-18-4	Tetrachloroethene	ND	130	ug/kg	
109-99-9	Tetrahydrofuran	ND	650	ug/kg	
108-88-3	Toluene	ND	320	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	320	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	320	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	130	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	130	ug/kg	
79-01-6	Trichloroethene	ND	130	ug/kg	
75-69-4	Trichlorofluoromethane	ND	130	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	320	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	320	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	320	ug/kg	
75-01-4	Vinyl chloride	ND	130	ug/kg	
	m,p-Xylene	ND	130	ug/kg	
95-47-6	o-Xylene	ND	130	ug/kg	
1330-20-7	Xylene (total)	ND	130	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 3 of 3

Client Sample ID: HA109\_8-12'

Lab Sample ID: M96225-4 **Date Sampled:** 11/30/10 Matrix: SO - Soil **Date Received:** 11/30/10 Method: SW846 8260B Percent Solids: 83.8

Former Energy International Parcel, MA **Project:** 

#### **VOA MCP List**

CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	112%		70-130%
2037-26-5	Toluene-D8	111%		70-130%
460-00-4	4-Bromofluorobenzene	109%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$ 



Client Sample ID: HA109\_8-12' Lab Sample ID: M96225-4

**Matrix:** SO - Soil Method: SW846 8270C SW846 3545

**Project:** Former Energy International Parcel, MA **Date Sampled:** 11/30/10 **Date Received:** 11/30/10

Percent Solids: 83.8

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 S19777.D 1 12/07/10 PR 12/03/10 OP23515 MSS816 Run #2

**Final Volume Initial Weight** 

Run #1 1.0 ml 20.8 g

Run #2

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	570	ug/kg	
95-57-8	2-Chlorophenol	ND	290	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	570	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	570	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	570	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1100	ug/kg	
95-48-7	2-Methylphenol	ND	570	ug/kg	
	3&4-Methylphenol	ND	570	ug/kg	
88-75-5	2-Nitrophenol	ND	570	ug/kg	
100-02-7	4-Nitrophenol	ND	1100	ug/kg	
87-86-5	Pentachlorophenol	ND	570	ug/kg	
108-95-2	Phenol	ND	290	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	570	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	570	ug/kg	
83-32-9	Acenaphthene	468	290	ug/kg	
208-96-8	Acenaphthylene	340	290	ug/kg	
98-86-2	Acetophenone	ND	570	ug/kg	
62-53-3	Aniline	ND	570	ug/kg	
120-12-7	Anthracene	1140	290	ug/kg	
56-55-3	Benzo(a)anthracene	2440	290	ug/kg	
50-32-8	Benzo(a)pyrene	1900	290	ug/kg	
205-99-2	Benzo(b)fluoranthene	1930	290	ug/kg	
191-24-2	Benzo(g,h,i)perylene	898	290	ug/kg	
207-08-9	Benzo(k)fluoranthene	1560	290	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	290	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	290	ug/kg	
91-58-7	2-Chloronaphthalene	ND	290	ug/kg	
106-47-8	4-Chloroaniline	ND	570	ug/kg	
218-01-9	Chrysene	2550	290	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	290	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	290	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	290	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



Client Sample ID: HA109\_8-12'
Lab Sample ID: M96225-4

 Matrix:
 SO - Soil

 Method:
 SW846 8270C
 SW846 3545

**Project:** Former Energy International Parcel, MA

#### **Date Sampled:** 11/30/10 **Date Received:** 11/30/10 **Percent Solids:** 83.8

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units Q
95-50-1	1,2-Dichlorobenzene	ND	290	ug/kg
122-66-7	1,2-Diphenylhydrazine	ND	290	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	290	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	290	ug/kg
121-14-2	2,4-Dinitrotoluene	ND	570	ug/kg
606-20-2	2,6-Dinitrotoluene	ND	570	ug/kg
91-94-1	3,3'-Dichlorobenzidine	ND	290	ug/kg
53-70-3	Dibenzo(a,h)anthracene	533	290	ug/kg
132-64-9	Dibenzofuran	474	290	ug/kg
84-74-2	Di-n-butyl phthalate	ND	290	ug/kg
117-84-0	Di-n-octyl phthalate	ND	290	ug/kg
84-66-2	Diethyl phthalate	ND	290	ug/kg
131-11-3	Dimethyl phthalate	ND	290	ug/kg
117-81-7	bis(2-Ethylhexyl)phthalate	ND	290	ug/kg
206-44-0	Fluoranthene	4240	290	ug/kg
86-73-7	Fluorene	582	290	ug/kg
118-74-1	Hexachlorobenzene	ND	290	ug/kg
87-68-3	Hexachlorobutadiene	ND	290	ug/kg
77-47-4	Hexachlorocyclopentadiene	ND	570	ug/kg
67-72-1	Hexachloroethane	ND	290	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	980	290	ug/kg
78-59-1	Isophorone	ND	290	ug/kg
91-57-6	2-Methylnaphthalene	565	290	ug/kg
91-20-3	Naphthalene	942	290	ug/kg
98-95-3	Nitrobenzene	ND	290	ug/kg
621-64-7	N-Nitroso-di-n-propylamine	ND	290	ug/kg
86-30-6	N-Nitrosodiphenylamine	ND	290	ug/kg
85-01-8	Phenanthrene	3520	290	ug/kg
129-00-0	Pyrene	3440	290	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	290	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	62%		30-130%
4165-62-2	Phenol-d5	62%		30-130%
118-79-6	2,4,6-Tribromophenol	82%		30-130%
4165-60-0	Nitrobenzene-d5	60%		30-130%
321-60-8	2-Fluorobiphenyl	72%		30-130%
1718-51-0	Terphenyl-d14	69%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

 $N = \ Indicates \ presumptive \ evidence \ of \ a \ compound$ 



# Report of Analysis Page 1 of 1

 Client Sample ID:
 HA109\_8-12'

 Lab Sample ID:
 M96225-4
 Date Sampled:
 11/30/10

 Matrix:
 SO - Soil
 Date Received:
 11/30/10

 Method:
 MADEP VPH REV 1.1
 Percent Solids:
 83.8

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BH17795.D 1 12/06/10 AP n/a n/a GBH926

Run #2

Initial Weight Final Volume Methanol Aliquot
Run #1 10.8 g 11.0 ml 100 ul
Run #2

#### **Volatile TPHC Ranges**

CAS No.	Compound	Result	RL	Units Q
	C5- C8 Aliphatics (Unadj.)	ND	7000	ug/kg
	C9- C12 Aliphatics (Unadj.)	ND	7000	ug/kg
	C9- C10 Aromatics (Unadj.)	ND	7000	ug/kg
	C5- C8 Aliphatics	ND	7000	ug/kg
	C9- C12 Aliphatics	ND	7000	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
615-59-8	2,5-Dibromotoluene	103%		70-130%
615-59-8	2,5-Dibromotoluene	95%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



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Page 1 of 1

Client Sample ID: HA109\_8-12' Lab Sample ID: M96225-4

**Date Sampled:** 11/30/10 Matrix: SO - Soil **Date Received:** 11/30/10 Method: MADEP EPH REV 1.1 SW846 3550B **Percent Solids:** 83.8

**Project:** Former Energy International Parcel, MA

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 BI2554.D 1 12/05/10 JD 12/02/10 OP23506 GBI96

Run #2

**Final Volume Initial Weight** 

Run #1 11.4 g 2.0 ml

Run #2

#### **Extractable TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C11-C22 Aromatics (Unadj.) C9-C18 Aliphatics	168000 24800	21000 11000	ug/kg ug/kg	
	C19-C36 Aliphatics	107000	11000	ug/kg	
	C11-C22 Aromatics	134000	21000	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its
84-15-1	o-Terphenyl	80%		40-1	40%
321-60-8	2-Fluorobiphenyl	98%		40-1	40%
580-13-2	2-Bromonaphthalene	94%		40-1	40%
3386-33-2	1-Chlorooctadecane	44%		40-1	40%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: HA109\_8-12' Lab Sample ID: M96225-4 **Date Sampled:** 11/30/10 Matrix: SO - Soil **Date Received:** 11/30/10 **Percent Solids:** 83.8

**Project:** Former Energy International Parcel, MA

#### **Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	3.3	0.86	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Arsenic	15.5	0.86	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Barium	144	4.3	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Beryllium	0.47	0.35	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Cadmium	1.1	0.35	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Chromium	15.8	0.86	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Lead	689	0.86	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Mercury	10.7	0.69	mg/kg	20	12/07/10	12/08/10 PY	SW846 7471A <sup>2</sup>	SW846 7471A <sup>4</sup>
Nickel	15.4	3.5	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Selenium	1.5	0.86	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Silver	1.0	0.43	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Thallium	< 0.86	0.86	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Vanadium	23.3	0.86	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Zinc	353	1.7	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>

(1) Instrument QC Batch: MA12497 (2) Instrument QC Batch: MA12500 (3) Prep QC Batch: MP16325 (4) Prep QC Batch: MP16345

Page 1 of 1

Client Sample ID: HA109\_8-12' Lab Sample ID: M96225-4

M96225-4 **Date Sampled:** 11/30/10 SO - Soil **Date Received:** 11/30/10 **Percent Solids:** 83.8

**Project:** Former Energy International Parcel, MA

### **General Chemistry**

Matrix:

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	7.6			1	12/03/10	MA	SW846 CHAP7
Cyanide Reactivity	< 1.8	1.8	mg/kg	1	12/06/10	BF	SW846 CHAP7
Ignitability (Flashpoint)	> 230		Deg. F	1	12/06/10	BF	SW846 1020
Redox Potential Vs H2 a	407		mv	1	12/03/10	MC	ASTM D1498-76M
Solids, Percent	83.8		%	1	12/03/10	HS	SM21 2540 B MOD.
Sulfide Reactivity	< 60	60	mg/kg	1	12/06/10	BF	SW846 CHAP7

(a) Analysis requested after recommended holding time.

Page 1 of 1

Client Sample ID: HA109\_8-12' Lab Sample ID: M96225-4A Matrix: SO - Soil

**Date Sampled:** 11/30/10 **Date Received:** 11/30/10 **Percent Solids:** 83.8

Project: Former Energy International Parcel, MA

Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	<b>Prep Method</b>
Lead	2.5	D008	5.0	0.010	mg/l	1	12/09/10	12/10/10 DA	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Mercury	< 0.00020	D009	0.20	0.00020	0 mg/1	1	12/09/10	12/09/10 MA	SW846 7470A <sup>1</sup>	SW846 7470A <sup>4</sup>

(1) Instrument QC Batch: MA12507 (2) Instrument QC Batch: MA12508 (3) Prep QC Batch: MP16354 (4) Prep QC Batch: MP16357

RL = Reporting Limit

MCL = Maximum Contamination Level (40 CFR 261 6/96)



MSR663

### **Report of Analysis**

GK

n/a

Client Sample ID: HA108\_0-4' Lab Sample ID: M96225-5

File ID

R18615.D

Matrix: SO - Soil Method: SW846 8260B

**Project:** Former Energy International Parcel, MA

DF

1

Date Sampled: 11/30/10
Date Received: 11/30/10
Percent Solids: 87.4

n/a

Analyzed By Prep Date Prep Batch Analytical Batch

Run #1 Run #2

Initial Weight Final Volume Methanol Aliquot

12/07/10

Run #1 11.3 g 10.0 ml 100 ul

Run #2

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	290	ug/kg	
71-43-2	Benzene	31.0	29	ug/kg	
108-86-1	Bromobenzene	ND	290	ug/kg	
74-97-5	Bromochloromethane	ND	290	ug/kg	
75-27-4	Bromodichloromethane	ND	120	ug/kg	
75-25-2	Bromoform	ND	120	ug/kg	
74-83-9	Bromomethane	ND	120	ug/kg	
78-93-3	2-Butanone (MEK)	ND	290	ug/kg	
104-51-8	n-Butylbenzene	ND	290	ug/kg	
135-98-8	sec-Butylbenzene	ND	290	ug/kg	
98-06-6	tert-Butylbenzene	ND	290	ug/kg	
75-15-0	Carbon disulfide	ND	290	ug/kg	
56-23-5	Carbon tetrachloride	ND	120	ug/kg	
108-90-7	Chlorobenzene	ND	120	ug/kg	
75-00-3	Chloroethane	ND	290	ug/kg	
67-66-3	Chloroform	ND	120	ug/kg	
74-87-3	Chloromethane	ND	290	ug/kg	
95-49-8	o-Chlorotoluene	ND	290	ug/kg	
106-43-4	p-Chlorotoluene	ND	290	ug/kg	
108-20-3	Di-Isopropyl ether	ND	120	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	290	ug/kg	
124-48-1	Dibromochloromethane	ND	120	ug/kg	
106-93-4	1,2-Dibromoethane	ND	120	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	120	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	120	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	120	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	120	ug/kg	
75-34-3	1,1-Dichloroethane	ND	120	ug/kg	
107-06-2	1,2-Dichloroethane	ND	120	ug/kg	
75-35-4	1,1-Dichloroethene	ND	120	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	120	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	120	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



**Percent Solids:** 87.4

 Client Sample ID:
 HA108\_0-4'

 Lab Sample ID:
 M96225-5

 Matrix:
 SO - Soil

 Date Sampled:
 11/30/10

 Date Received:
 11/30/10

**Project:** Former Energy International Parcel, MA

SW846 8260B

#### **VOA MCP List**

Method:

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	120	ug/kg	
142-28-9	1,3-Dichloropropane	ND	290	ug/kg	
594-20-7	2,2-Dichloropropane	ND	290	ug/kg	
563-58-6	1,1-Dichloropropene	ND	290	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	120	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	120	ug/kg	
123-91-1	1,4-Dioxane	ND	1400	ug/kg	
60-29-7	Ethyl Ether	ND	290	ug/kg	
100-41-4	Ethylbenzene	ND	120	ug/kg	
87-68-3	Hexachlorobutadiene	ND	290	ug/kg	
591-78-6	2-Hexanone	ND	290	ug/kg	
98-82-8	Isopropylbenzene	ND	290	ug/kg	
99-87-6	p-Isopropyltoluene	ND	290	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	120	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	290	ug/kg	
74-95-3	Methylene bromide	ND	290	ug/kg	
75-09-2	Methylene chloride	ND	120	ug/kg	
91-20-3	Naphthalene	665	290	ug/kg	
103-65-1	n-Propylbenzene	ND	290	ug/kg	
100-42-5	Styrene	ND	290	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	290	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	120	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	290	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	120	ug/kg	
127-18-4	Tetrachloroethene	ND	120	ug/kg	
109-99-9	Tetrahydrofuran	ND	580	ug/kg	
108-88-3	Toluene	ND	290	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	290	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	290	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	120	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	120	ug/kg	
79-01-6	Trichloroethene	ND	120	ug/kg	
75-69-4	Trichlorofluoromethane	ND	120	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	290	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	290	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	290	ug/kg	
75-01-4	Vinyl chloride	ND	120	ug/kg	
	m,p-Xylene	ND	120	ug/kg	
95-47-6	o-Xylene	ND	120	ug/kg	
1330-20-7	Xylene (total)	ND	120	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



# C

## **Report of Analysis**

 Client Sample ID:
 HA108\_0-4'

 Lab Sample ID:
 M96225-5
 Date Sampled:
 11/30/10

 Matrix:
 SO - Soil
 Date Received:
 11/30/10

 Method:
 SW846 8260B
 Percent Solids:
 87.4

**Project:** Former Energy International Parcel, MA

#### **VOA MCP List**

CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	111%		70-130%
2037-26-5	Toluene-D8	113%		70-130%
460-00-4	4-Bromofluorobenzene	108%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$ 

N = Indicates presumptive evidence of a compound



MSS816

## **Report of Analysis**

PR

Client Sample ID: HA108\_0-4' Lab Sample ID: M96225-5

File ID

S19778.D

**Matrix:** SO - Soil Method: SW846 8270C SW846 3545

**Project:** Former Energy International Parcel, MA

DF

12/07/10

1

**Analytical Batch** Analyzed By **Prep Date Prep Batch** 

12/03/10

**Percent Solids:** 87.4

**Date Sampled:** 11/30/10

**Date Received:** 11/30/10

OP23515

Run #1 Run #2

> **Final Volume Initial Weight**

Run #1 1.0 ml 20.4 g

Run #2

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	560	ug/kg	
95-57-8	2-Chlorophenol	ND	280	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	560	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	560	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	560	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1100	ug/kg	
95-48-7	2-Methylphenol	ND	560	ug/kg	
	3&4-Methylphenol	ND	560	ug/kg	
88-75-5	2-Nitrophenol	ND	560	ug/kg	
100-02-7	4-Nitrophenol	ND	1100	ug/kg	
87-86-5	Pentachlorophenol	ND	560	ug/kg	
108-95-2	Phenol	ND	280	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	560	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	560	ug/kg	
83-32-9	Acenaphthene	297	280	ug/kg	
208-96-8	Acenaphthylene	375	280	ug/kg	
98-86-2	Acetophenone	ND	560	ug/kg	
62-53-3	Aniline	ND	560	ug/kg	
120-12-7	Anthracene	996	280	ug/kg	
56-55-3	Benzo(a)anthracene	2620	280	ug/kg	
50-32-8	Benzo(a)pyrene	2160	280	ug/kg	
205-99-2	Benzo(b)fluoranthene	2380	280	ug/kg	
191-24-2	Benzo(g,h,i)perylene	923	280	ug/kg	
207-08-9	Benzo(k)fluoranthene	1910	280	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	280	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	280	ug/kg	
91-58-7	2-Chloronaphthalene	ND	280	ug/kg	
106-47-8	4-Chloroaniline	ND	560	ug/kg	
218-01-9	Chrysene	2780	280	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	280	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	280	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	280	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



#### Page 2 of 2

## **Report of Analysis**

Client Sample ID: HA108\_0-4' Lab Sample ID: M96225-5

Matrix: SO - Soil

Method: SW846 8270C SW846 3545

**Project:** Former Energy International Parcel, MA

### **Date Received:** 11/30/10 **Percent Solids:** 87.4

**Date Sampled:** 11/30/10

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units Q
95-50-1	1,2-Dichlorobenzene	ND	280	ug/kg
122-66-7	1,2-Diphenylhydrazine	ND	280	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	280	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	280	ug/kg
121-14-2	2,4-Dinitrotoluene	ND	560	ug/kg
606-20-2	2,6-Dinitrotoluene	ND	560	ug/kg
91-94-1	3,3'-Dichlorobenzidine	ND	280	ug/kg
53-70-3	Dibenzo(a,h)anthracene	438	280	ug/kg
132-64-9	Dibenzofuran	ND	280	ug/kg
84-74-2	Di-n-butyl phthalate	ND	280	ug/kg
117-84-0	Di-n-octyl phthalate	ND	280	ug/kg
84-66-2	Diethyl phthalate	ND	280	ug/kg
131-11-3	Dimethyl phthalate	ND	280	ug/kg
117-81-7	bis(2-Ethylhexyl)phthalate	ND	280	ug/kg
206-44-0	Fluoranthene	4500	280	ug/kg
86-73-7	Fluorene	354	280	ug/kg
118-74-1	Hexachlorobenzene	ND	280	ug/kg
87-68-3	Hexachlorobutadiene	ND	280	ug/kg
77-47-4	Hexachlorocyclopentadiene	ND	560	ug/kg
67-72-1	Hexachloroethane	ND	280	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	1060	280	ug/kg
78-59-1	Isophorone	ND	280	ug/kg
91-57-6	2-Methylnaphthalene	351	280	ug/kg
91-20-3	Naphthalene	549	280	ug/kg
98-95-3	Nitrobenzene	ND	280	ug/kg
621-64-7	N-Nitroso-di-n-propylamine	ND	280	ug/kg
86-30-6	N-Nitrosodiphenylamine	ND	280	ug/kg
85-01-8	Phenanthrene	3080	280	ug/kg
129-00-0	Pyrene	3230	280	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	280	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	66%		30-130%
4165-62-2	Phenol-d5	67%		30-130%
118-79-6	2,4,6-Tribromophenol	83%		30-130%
4165-60-0	Nitrobenzene-d5	66%		30-130%
321-60-8	2-Fluorobiphenyl	76%		30-130%
1718-51-0	Terphenyl-d14	71%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$ N = Indicates presumptive evidence of a compound



### Page 1 of 1

## **Report of Analysis**

Client Sample ID: HA108\_0-4' Lab Sample ID: M96225-5

Lab Sample ID:M96225-5Date Sampled:11/30/10Matrix:SO - SoilDate Received:11/30/10Method:MADEP VPH REV 1.1Percent Solids:87.4

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BH17796.D 1 12/06/10 AP n/a n/a GBH926

Run #2

Run #1 11.3 g 11.0 ml 100 ul
Run #2

#### **Volatile TPHC Ranges**

CAS No.	Compound	Result	RL	Units Q
	C5- C8 Aliphatics (Unadj.) C9- C12 Aliphatics (Unadj.) C9- C10 Aromatics (Unadj.) C5- C8 Aliphatics C9- C12 Aliphatics	ND ND ND ND ND	6300 6300 6300 6300 6300	ug/kg ug/kg ug/kg ug/kg ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
615-59-8 615-59-8	2,5-Dibromotoluene 2,5-Dibromotoluene	92% 84%		70-130% 70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



C

### Page 1 of 1

## **Report of Analysis**

Client Sample ID: HA108\_0-4' Lab Sample ID: M96225-5

Matrix: SO - Soil Method: MADEP EPH REV 1.1 SW846 3550B

Project:

Former Energy International Parcel, MA

**Date Sampled:** 11/30/10 **Date Received:** 11/30/10

**Percent Solids:** 87.4

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BI2555.D	1	12/05/10	JD	12/02/10	OP23506	GBI96
D 1/2							

Run #2

**Initial Weight Final Volume** 

Run #1 11.4 g 2.0 ml

Run #2

#### **Extractable TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C11-C22 Aromatics (Unadj.) C9-C18 Aliphatics C19-C36 Aliphatics C11-C22 Aromatics	167000 22300 111000 135000	20000 10000 10000 20000	ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1 321-60-8 580-13-2	o-Terphenyl 2-Fluorobiphenyl	127% 96% 78%		40-140 40-140 40-140	%
3386-33-2	2-Bromonaphthalene 1-Chlorooctadecane	78% 66%		40-140	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



 Client Sample ID:
 HA108\_0-4'

 Lab Sample ID:
 M96225-5

 Date Sampled:
 11/30/10

 Matrix:
 SO - Soil

 Date Received:
 11/30/10

 Percent Solids:
 87.4

**Project:** Former Energy International Parcel, MA

#### **Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	<b>Prep Method</b>
Antimony	0.99	0.86	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Arsenic	8.3	0.86	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Barium	81.4	4.3	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Beryllium	0.47	0.34	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Cadmium	0.57	0.34	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Chromium	15.8	0.86	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Lead	277	0.86	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Mercury	1.1	0.036	mg/kg	1	12/07/10	12/08/10 PY	SW846 7471A <sup>2</sup>	SW846 7471A <sup>4</sup>
Nickel	13.7	3.4	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Selenium	< 0.86	0.86	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Silver	< 0.43	0.43	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Thallium	< 0.86	0.86	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Vanadium	25.6	0.86	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Zinc	188	1.7	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>

(1) Instrument QC Batch: MA12497(2) Instrument QC Batch: MA12500(3) Prep QC Batch: MP16325(4) Prep QC Batch: MP16345

Analysis Page 1 of 1

Client Sample ID: HA108\_0-4'
Lab Sample ID: M96225-5
Matrix: SO - Soil

Date Sampled: 11/30/10Date Received: 11/30/10Percent Solids: 87.4

**Project:** Former Energy International Parcel, MA

### **General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	8.0			1	12/03/10	MA	SW846 CHAP7
Cyanide Reactivity	< 1.7	1.7	mg/kg	1	12/06/10	BF	SW846 CHAP7
Ignitability (Flashpoint)	> 230		Deg. F	1	12/06/10	BF	SW846 1020
Redox Potential Vs H2 <sup>a</sup>	425		mv	1	12/03/10	MC	ASTM D1498-76M
Solids, Percent	87.4		%	1	12/03/10	HS	SM21 2540 B MOD.
Sulfide Reactivity	< 57	57	mg/kg	1	12/06/10	BF	SW846 CHAP7

(a) Analysis requested after recommended holding time.

Matrix:

# **Report of Analysis**

Page 1 of 1

Client Sample ID: HA108\_0-4' Lab Sample ID:

M96225-5A **Date Sampled:** 11/30/10 SO - Soil **Date Received:** 11/30/10

**Percent Solids:** 87.4

Project: Former Energy International Parcel, MA

### Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	<b>Prep Method</b>
Lead	0.42	D008	5.0	0.010	mg/l	1	12/09/10	12/10/10 DA	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA12508

(2) Prep QC Batch: MP16354

RL = Reporting Limit

MCL = Maximum Contamination Level (40 CFR 261 6/96)



Client Sample ID: HA108\_4-8' Lab Sample ID: M96225-6

Matrix: SO - Soil Method: SW846 8260B

**Project:** Former Energy International Parcel, MA **Date Sampled:** 11/30/10 **Date Received:** 11/30/10

Percent Solids: 83.3

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 R18616.D 1 12/07/10 GKn/an/a MSR663 Run #2

**Final Volume Methanol Aliquot Initial Weight** Run #1 9.35 g 10.0 ml 100 ul Run #2

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units Q
67-64-1	Acetone	ND	370	ug/kg
71-43-2	Benzene	ND	37	ug/kg
108-86-1	Bromobenzene	ND	370	ug/kg
74-97-5	Bromochloromethane	ND	370	ug/kg
75-27-4	Bromodichloromethane	ND	150	ug/kg
75-25-2	Bromoform	ND	150	ug/kg
74-83-9	Bromomethane	ND	150	ug/kg
78-93-3	2-Butanone (MEK)	ND	370	ug/kg
104-51-8	n-Butylbenzene	ND	370	ug/kg
135-98-8	sec-Butylbenzene	ND	370	ug/kg
98-06-6	tert-Butylbenzene	ND	370	ug/kg
75-15-0	Carbon disulfide	ND	370	ug/kg
56-23-5	Carbon tetrachloride	ND	150	ug/kg
108-90-7	Chlorobenzene	ND	150	ug/kg
75-00-3	Chloroethane	ND	370	ug/kg
67-66-3	Chloroform	ND	150	ug/kg
74-87-3	Chloromethane	ND	370	ug/kg
95-49-8	o-Chlorotoluene	ND	370	ug/kg
106-43-4	p-Chlorotoluene	ND	370	ug/kg
108-20-3	Di-Isopropyl ether	ND	150	ug/kg
96-12-8	1,2-Dibromo-3-chloropropane	ND	370	ug/kg
124-48-1	Dibromochloromethane	ND	150	ug/kg
106-93-4	1,2-Dibromoethane	ND	150	ug/kg
95-50-1	1,2-Dichlorobenzene	ND	150	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	150	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	150	ug/kg
75-71-8	Dichlorodifluoromethane	ND	150	ug/kg
75-34-3	1,1-Dichloroethane	ND	150	ug/kg
107-06-2	1,2-Dichloroethane	ND	150	ug/kg
75-35-4	1,1-Dichloroethene	ND	150	ug/kg
156-59-2	cis-1,2-Dichloroethene	ND	150	ug/kg
156-60-5	trans-1,2-Dichloroethene	ND	150	ug/kg

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



 Lab Sample ID:
 M96225-6
 Date Sampled:
 11/30/10

 Matrix:
 SO - Soil
 Date Received:
 11/30/10

 Method:
 SW846 8260B
 Percent Solids:
 83.3

**Project:** Former Energy International Parcel, MA

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	150	ug/kg	
142-28-9	1,3-Dichloropropane	ND	370	ug/kg	
594-20-7	2,2-Dichloropropane	ND	370	ug/kg	
563-58-6	1,1-Dichloropropene	ND	370	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	150	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	150	ug/kg	
123-91-1	1,4-Dioxane	ND	1900	ug/kg	
60-29-7	Ethyl Ether	ND	370	ug/kg	
100-41-4	Ethylbenzene	ND	150	ug/kg	
87-68-3	Hexachlorobutadiene	ND	370	ug/kg	
591-78-6	2-Hexanone	ND	370	ug/kg	
98-82-8	Isopropylbenzene	ND	370	ug/kg	
99-87-6	p-Isopropyltoluene	ND	370	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	150	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	370	ug/kg	
74-95-3	Methylene bromide	ND	370	ug/kg	
75-09-2	Methylene chloride	ND	150	ug/kg	
91-20-3	Naphthalene	ND	370	ug/kg	
103-65-1	n-Propylbenzene	ND	370	ug/kg	
100-42-5	Styrene	ND	370	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	370	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	150	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	370	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	150	ug/kg	
127-18-4	Tetrachloroethene	ND	150	ug/kg	
109-99-9	Tetrahydrofuran	ND	740	ug/kg	
108-88-3	Toluene	ND	370	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	370	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	370	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	150	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	150	ug/kg	
79-01-6	Trichloroethene	ND	150	ug/kg	
75-69-4	Trichlorofluoromethane	ND	150	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	370	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	370	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	370	ug/kg	
75-01-4	Vinyl chloride	ND	150	ug/kg	
	m,p-Xylene	ND	150	ug/kg	
95-47-6	o-Xylene	ND	150	ug/kg	
1330-20-7	Xylene (total)	ND	150	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Page 3 of 3

Client Sample ID: HA108\_4-8'

 Lab Sample ID:
 M96225-6
 Date Sampled:
 11/30/10

 Matrix:
 SO - Soil
 Date Received:
 11/30/10

 Method:
 SW846 8260B
 Percent Solids:
 83.3

**Project:** Former Energy International Parcel, MA

#### **VOA MCP List**

CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		70-130%
2037-26-5	Toluene-D8	111%		70-130%
460-00-4	4-Bromofluorobenzene	108%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ \, \text{Indicates analyte found in associated method blank}$ 

N = Indicates presumptive evidence of a compound



C

MSS816

## **Report of Analysis**

PR

Client Sample ID: HA108\_4-8' Lab Sample ID: M96225-6

File ID

S19779.D

**Matrix:** SO - Soil Method: SW846 8270C SW846 3545

**Project:** Former Energy International Parcel, MA

DF

1

Analyzed

12/07/10

**Analytical Batch** By **Prep Date Prep Batch** 

OP23515

**Date Sampled:** 11/30/10

**Date Received:** 11/30/10

Percent Solids: 83.3

12/03/10

Run #1 Run #2

> **Final Volume Initial Weight**

Run #1 1.0 ml 20.5 g

Run #2

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	590	ug/kg	
95-57-8	2-Chlorophenol	ND	290	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	590	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	590	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	590	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	ug/kg	
95-48-7	2-Methylphenol	ND	590	ug/kg	
	3&4-Methylphenol	ND	590	ug/kg	
88-75-5	2-Nitrophenol	ND	590	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	ug/kg	
87-86-5	Pentachlorophenol	ND	590	ug/kg	
108-95-2	Phenol	ND	290	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	590	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	590	ug/kg	
83-32-9	Acenaphthene	1040	290	ug/kg	
208-96-8	Acenaphthylene	ND	290	ug/kg	
98-86-2	Acetophenone	ND	590	ug/kg	
62-53-3	Aniline	ND	590	ug/kg	
120-12-7	Anthracene	ND	290	ug/kg	
56-55-3	Benzo(a)anthracene	ND	290	ug/kg	
50-32-8	Benzo(a)pyrene	ND	290	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	290	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	290	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	290	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	290	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	290	ug/kg	
91-58-7	2-Chloronaphthalene	ND	290	ug/kg	
106-47-8	4-Chloroaniline	ND	590	ug/kg	
218-01-9	Chrysene	ND	290	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	290	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	290	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	290	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



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Client Sample ID: HA108\_4-8' Lab Sample ID: M96225-6

Matrix: SO - Soil

**Method:** SW846 8270C SW846 3545

**Project:** Former Energy International Parcel, MA

#### N f A

**Date Received:** 11/30/10 **Percent Solids:** 83.3

**Date Sampled:** 11/30/10

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units Q
95-50-1	1,2-Dichlorobenzene	ND	290	ug/kg
122-66-7	1,2-Diphenylhydrazine	ND	290	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	290	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	290	ug/kg
121-14-2	2,4-Dinitrotoluene	ND	590	ug/kg
606-20-2	2,6-Dinitrotoluene	ND	590	ug/kg
91-94-1	3,3'-Dichlorobenzidine	ND	290	ug/kg
53-70-3	Dibenzo(a,h)anthracene	ND	290	ug/kg
132-64-9	Dibenzofuran	ND	290	ug/kg
84-74-2	Di-n-butyl phthalate	ND	290	ug/kg
117-84-0	Di-n-octyl phthalate	ND	290	ug/kg
84-66-2	Diethyl phthalate	ND	290	ug/kg
131-11-3	Dimethyl phthalate	ND	290	ug/kg
117-81-7	bis(2-Ethylhexyl)phthalate	ND	290	ug/kg
206-44-0	Fluoranthene	785	290	ug/kg
86-73-7	Fluorene	ND	290	ug/kg
118-74-1	Hexachlorobenzene	ND	290	ug/kg
87-68-3	Hexachlorobutadiene	ND	290	ug/kg
77-47-4	Hexachlorocyclopentadiene	ND	590	ug/kg
67-72-1	Hexachloroethane	ND	290	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	ND	290	ug/kg
78-59-1	Isophorone	ND	290	ug/kg
91-57-6	2-Methylnaphthalene	ND	290	ug/kg
91-20-3	Naphthalene	563	290	ug/kg
98-95-3	Nitrobenzene	ND	290	ug/kg
621-64-7	N-Nitroso-di-n-propylamine	ND	290	ug/kg
86-30-6	N-Nitrosodiphenylamine	ND	290	ug/kg
85-01-8	Phenanthrene	832	290	ug/kg
129-00-0	Pyrene	525	290	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	290	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	59%		30-130%
4165-62-2	Phenol-d5	61%		30-130%
118-79-6	2,4,6-Tribromophenol	72%		30-130%
4165-60-0	Nitrobenzene-d5	50%		30-130%
321-60-8	2-Fluorobiphenyl	64%		30-130%
1718-51-0	Terphenyl-d14	40%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



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Client Sample ID: HA108\_4-8'

Lab Sample ID:M96225-6Date Sampled:11/30/10Matrix:SO - SoilDate Received:11/30/10Method:MADEP VPH REV 1.1Percent Solids:83.3

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BH17797.D 1 12/06/10 AP n/a n/a GBH926

Run #2

Run #1 9.35 g Final Volume Methanol Aliquot 100 ul

Run #2

#### **Volatile TPHC Ranges**

CAS No.	Compound	Result RL Units			Q
	C5- C8 Aliphatics (Unadj.) C9- C12 Aliphatics (Unadj.)	ND ND	8100 8100	ug/kg ug/kg	
	C9- C10 Aromatics (Unadj.)	ND ND	8100	ug/kg ug/kg	
	C5- C8 Aliphatics	ND	8100	ug/kg	
	C9- C12 Aliphatics	ND	8100	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its
615-59-8	2,5-Dibromotoluene	100%		70-1	30%
615-59-8	2,5-Dibromotoluene	93%		70-1	30%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



C

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Client Sample ID: HA108\_4-8' Lab Sample ID: M96225-6

Matrix: SO - Soil

Method: MADEP EPH REV 1.1 SW846 3550B

**Project:** Former Energy International Parcel, MA

**Date Sampled:** 11/30/10 **Date Received:** 11/30/10

Percent Solids: 83.3

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BI2556.D 1 12/05/10 JD 12/02/10 OP23506 GBI96

Run #2

Initial Weight Final Volume

Run #1 11.3 g 2.0 ml

Run #2

#### **Extractable TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C11-C22 Aromatics (Unadj.) C9-C18 Aliphatics C19-C36 Aliphatics C11-C22 Aromatics	57500 13700 ND 35800	21000 11000 11000 21000	ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	S
84-15-1	o-Terphenyl	56%		40-140	)%
321-60-8	2-Fluorobiphenyl	110%		40-140	)%
580-13-2	2-Bromonaphthalene	86%		40-140	)%
3386-33-2	1-Chlorooctadecane	11% a		40-140	)%

(a) Outside control limits due to possible matrix interference. Confirmed by refractionation.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



L

Page 1 of 1

Client Sample ID: HA108\_4-8'
Lab Sample ID: M96225-6
Matrix: SO - Soil

**Date Sampled:** 11/30/10 **Date Received:** 11/30/10 **Percent Solids:** 83.3

**Project:** Former Energy International Parcel, MA

#### **Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	1.3	0.87	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Arsenic	7.5	0.87	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Barium	97.0	4.3	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Beryllium	0.39	0.35	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Cadmium	< 0.35	0.35	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Chromium	7.9	0.87	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Lead	229	0.87	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Mercury	0.59	0.036	mg/kg	1	12/07/10	12/08/10 PY	SW846 7471A <sup>2</sup>	SW846 7471A <sup>4</sup>
Nickel	10.8	3.5	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Selenium	1.4	0.87	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Silver	< 0.43	0.43	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Thallium	< 0.87	0.87	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Vanadium	14.8	0.87	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Zinc	169	1.7	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>

(1) Instrument QC Batch: MA12497(2) Instrument QC Batch: MA12500(3) Prep QC Batch: MP16325(4) Prep QC Batch: MP16345

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Client Sample ID: HA108\_4-8'
Lab Sample ID: M96225-6
Matrix: SO - Soil

Date Sampled: 11/30/10Date Received: 11/30/10Percent Solids: 83.3

**Project:** Former Energy International Parcel, MA

### **General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	7.8			1	12/03/10	MA	SW846 CHAP7
Cyanide Reactivity	< 1.8	1.8	mg/kg	1	12/06/10	BF	SW846 CHAP7
Ignitability (Flashpoint)	> 230		Deg. F	1	12/06/10	BF	SW846 1020
Redox Potential Vs H2 <sup>a</sup>	427		mv	1	12/03/10	MC	ASTM D1498-76M
Solids, Percent	83.3		%	1	12/03/10	HS	SM21 2540 B MOD.
Sulfide Reactivity	< 60	60	mg/kg	1	12/06/10	BF	SW846 CHAP7

(a) Analysis requested after recommended holding time.

Page 1 of 1

Client Sample ID: HA108\_4-8'

Lab Sample ID: M96225-6A **Date Sampled:** 11/30/10 Matrix: SO - Soil **Date Received:** 11/30/10 **Percent Solids:** 83.3

Project: Former Energy International Parcel, MA

### Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	0.88	D008	5.0	0.010	mg/l	1	12/09/10	12/10/10 DA	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA12508

(2) Prep QC Batch: MP16354

RL = Reporting Limit

MCL = Maximum Contamination Level (40 CFR 261 6/96)



Client Sample ID: HA107\_0-4'

Lab Sample ID: M96225-7 **Date Sampled:** 11/30/10 **Matrix:** SO - Soil **Date Received:** 11/30/10 Method: SW846 8260B Percent Solids: 88.4

**Project:** Former Energy International Parcel, MA

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 R18617.D 1 12/07/10 GKn/aMSR663 n/a

Run #2

**Final Volume Methanol Aliquot Initial Weight** 

Run #1 10.0 ml 100 ul 10.8 g

Run #2

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	300	ug/kg	
71-43-2	Benzene	31.7	30	ug/kg	
108-86-1	Bromobenzene	ND	300	ug/kg	
74-97-5	Bromochloromethane	ND	300	ug/kg	
75-27-4	Bromodichloromethane	ND	120	ug/kg	
75-25-2	Bromoform	ND	120	ug/kg	
74-83-9	Bromomethane	ND	120	ug/kg	
78-93-3	2-Butanone (MEK)	ND	300	ug/kg	
104-51-8	n-Butylbenzene	ND	300	ug/kg	
135-98-8	sec-Butylbenzene	ND	300	ug/kg	
98-06-6	tert-Butylbenzene	ND	300	ug/kg	
75-15-0	Carbon disulfide	ND	300	ug/kg	
56-23-5	Carbon tetrachloride	ND	120	ug/kg	
108-90-7	Chlorobenzene	ND	120	ug/kg	
75-00-3	Chloroethane	ND	300	ug/kg	
67-66-3	Chloroform	ND	120	ug/kg	
74-87-3	Chloromethane	ND	300	ug/kg	
95-49-8	o-Chlorotoluene	ND	300	ug/kg	
106-43-4	p-Chlorotoluene	ND	300	ug/kg	
108-20-3	Di-Isopropyl ether	ND	120	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	300	ug/kg	
124-48-1	Dibromochloromethane	ND	120	ug/kg	
106-93-4	1,2-Dibromoethane	ND	120	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	120	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	120	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	120	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	120	ug/kg	
75-34-3	1,1-Dichloroethane	ND	120	ug/kg	
107-06-2	1,2-Dichloroethane	ND	120	ug/kg	
75-35-4	1,1-Dichloroethene	ND	120	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	120	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	120	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Page 2 of 3

Client Sample ID: HA107\_0-4' Lab Sample ID: M96225-7

Matrix: SO - Soil Method: SW846 8260B

**Project:** Former Energy International Parcel, MA

Date Sampled: 11/30/10 Date Received: 11/30/10 Percent Solids: 88.4

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	120	ug/kg	
142-28-9	1,3-Dichloropropane	ND	300	ug/kg	
594-20-7	2,2-Dichloropropane	ND	300	ug/kg	
563-58-6	1,1-Dichloropropene	ND	300	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	120	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	120	ug/kg	
123-91-1	1,4-Dioxane	ND	1500	ug/kg	
60-29-7	Ethyl Ether	ND	300	ug/kg	
100-41-4	Ethylbenzene	ND	120	ug/kg	
87-68-3	Hexachlorobutadiene	ND	300	ug/kg	
591-78-6	2-Hexanone	ND	300	ug/kg	
98-82-8	Isopropylbenzene	ND	300	ug/kg	
99-87-6	p-Isopropyltoluene	ND	300	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	120	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	300	ug/kg	
74-95-3	Methylene bromide	ND	300	ug/kg	
75-09-2	Methylene chloride	ND	120	ug/kg	
91-20-3	Naphthalene	ND	300	ug/kg	
103-65-1	n-Propylbenzene	ND	300	ug/kg	
100-42-5	Styrene	ND	300	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	300	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	120	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	300	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	120	ug/kg	
127-18-4	Tetrachloroethene	ND	120	ug/kg	
109-99-9	Tetrahydrofuran	ND	590	ug/kg	
108-88-3	Toluene	ND	300	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	300	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	300	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	120	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	120	ug/kg	
79-01-6	Trichloroethene	ND	120	ug/kg	
75-69-4	Trichlorofluoromethane	ND	120	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	300	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	300	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	300	ug/kg	
75-01-4	Vinyl chloride	ND	120	ug/kg	
	m,p-Xylene	ND	120	ug/kg	
95-47-6	o-Xylene	ND	120	ug/kg	
1330-20-7	Xylene (total)	ND	120	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



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Client Sample ID: HA107\_0-4'

 Lab Sample ID:
 M96225-7
 Date Sampled:
 11/30/10

 Matrix:
 SO - Soil
 Date Received:
 11/30/10

 Method:
 SW846 8260B
 Percent Solids:
 88.4

**Project:** Former Energy International Parcel, MA

#### **VOA MCP List**

CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		70-130%
2037-26-5	Toluene-D8	108%		70-130%
460-00-4	4-Bromofluorobenzene	107%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$ 

 $N = \ Indicates \ presumptive \ evidence \ of \ a \ compound$ 



Client Sample ID: HA107\_0-4' Lab Sample ID: M96225-7

Matrix: SO - Soil Method: SW846 8270C SW846 3545

**Project:** Former Energy International Parcel, MA **Date Sampled:** 11/30/10 **Date Received:** 11/30/10 Percent Solids: 88.4

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 S19780.D 1 12/07/10 PR 12/03/10 OP23515 MSS816

Run #2

**Final Volume Initial Weight** 

Run #1 1.0 ml 20.3 g

Run #2

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	560	ug/kg	
95-57-8	2-Chlorophenol	ND	280	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	560	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	560	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	560	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1100	ug/kg	
95-48-7	2-Methylphenol	ND	560	ug/kg	
	3&4-Methylphenol	ND	560	ug/kg	
88-75-5	2-Nitrophenol	ND	560	ug/kg	
100-02-7	4-Nitrophenol	ND	1100	ug/kg	
87-86-5	Pentachlorophenol	ND	560	ug/kg	
108-95-2	Phenol	ND	280	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	560	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	560	ug/kg	
83-32-9	Acenaphthene	472	280	ug/kg	
208-96-8	Acenaphthylene	584	280	ug/kg	
98-86-2	Acetophenone	ND	560	ug/kg	
62-53-3	Aniline	ND	560	ug/kg	
120-12-7	Anthracene	1760	280	ug/kg	
56-55-3	Benzo(a)anthracene	4820	280	ug/kg	
50-32-8	Benzo(a)pyrene	3870	280	ug/kg	
205-99-2	Benzo(b)fluoranthene	4610	280	ug/kg	
191-24-2	Benzo(g,h,i)perylene	1690	280	ug/kg	
207-08-9	Benzo(k)fluoranthene	2970	280	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	280	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	280	ug/kg	
91-58-7	2-Chloronaphthalene	ND	280	ug/kg	
106-47-8	4-Chloroaniline	ND	560	ug/kg	
218-01-9	Chrysene	5060	280	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	280	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	280	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	280	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



Client Sample ID: HA107\_0-4' Lab Sample ID: M96225-7

SO - Soil Method: SW846 8270C SW846 3545

**Project:** Former Energy International Parcel, MA

#### **Date Sampled:** 11/30/10 **Date Received:** 11/30/10 Percent Solids: 88.4

#### **ABN MCP List**

Matrix:

CAS No.	Compound	Result	RL	Units Q
95-50-1	1,2-Dichlorobenzene	ND	280	ug/kg
122-66-7	1,2-Diphenylhydrazine	ND	280	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	280	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	280	ug/kg
121-14-2	2,4-Dinitrotoluene	ND	560	ug/kg
606-20-2	2,6-Dinitrotoluene	ND	560	ug/kg
91-94-1	3,3'-Dichlorobenzidine	ND	280	ug/kg
53-70-3	Dibenzo(a,h)anthracene	834	280	ug/kg
132-64-9	Dibenzofuran	402	280	ug/kg
84-74-2	Di-n-butyl phthalate	ND	280	ug/kg
117-84-0	Di-n-octyl phthalate	ND	280	ug/kg
84-66-2	Diethyl phthalate	ND	280	ug/kg
131-11-3	Dimethyl phthalate	ND	280	ug/kg
117-81-7	bis(2-Ethylhexyl)phthalate	ND	280	ug/kg
206-44-0	Fluoranthene	8090	280	ug/kg
86-73-7	Fluorene	595	280	ug/kg
118-74-1	Hexachlorobenzene	ND	280	ug/kg
87-68-3	Hexachlorobutadiene	ND	280	ug/kg
77-47-4	Hexachlorocyclopentadiene	ND	560	ug/kg
67-72-1	Hexachloroethane	ND	280	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	1900	280	ug/kg
78-59-1	Isophorone	ND	280	ug/kg
91-57-6	2-Methylnaphthalene	417	280	ug/kg
91-20-3	Naphthalene	675	280	ug/kg
98-95-3	Nitrobenzene	ND	280	ug/kg
621-64-7	N-Nitroso-di-n-propylamine	ND	280	ug/kg
86-30-6	N-Nitrosodiphenylamine	ND	280	ug/kg
85-01-8	Phenanthrene	5290	280	ug/kg
129-00-0	Pyrene	5880	280	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	280	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	66%		30-130%
4165-62-2	Phenol-d5	67%		30-130%
118-79-6	2,4,6-Tribromophenol	88%		30-130%
4165-60-0	Nitrobenzene-d5	65%		30-130%
321-60-8	2-Fluorobiphenyl	77%		30-130%
1718-51-0	Terphenyl-d14	72%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$ N = Indicates presumptive evidence of a compound



#### Page 1 of 1

## **Report of Analysis**

Client Sample ID: HA107\_0-4' Lab Sample ID: M96225-7

Matrix: SO - Soil Method: MADEP VPH REV 1.1

**Project:** Former Energy International Parcel, MA

**Date Sampled:** 11/30/10 **Date Received:** 11/30/10 Percent Solids: 88.4

File ID DF **Prep Batch Analytical Batch** Analyzed By **Prep Date** GBH929 Run #1 BH17823.D 1 12/07/10 WS n/an/a

Run #2

**Initial Weight Final Volume Methanol Aliquot** Run #1 10.8 g 11.0 ml 100 ul

Run #2

#### **Volatile TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C5- C8 Aliphatics (Unadj.) C9- C12 Aliphatics (Unadj.) C9- C10 Aromatics (Unadj.) C5- C8 Aliphatics C9- C12 Aliphatics	ND ND ND ND ND	6400 6400 6400 6400 6400	ug/kg ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	ts
615-59-8 615-59-8	2,5-Dibromotoluene 2,5-Dibromotoluene	77% 72%		70-13 70-13	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



Page 1 of 1

Client Sample ID: HA107\_0-4' Lab Sample ID: M96225-7

Matrix: SO - Soil

Method: MADEP EPH REV 1.1 SW846 3550B

**Project:** Former Energy International Parcel, MA **Date Sampled:** 11/30/10 **Date Received:** 11/30/10

Percent Solids: 88.4

File ID DF **Prep Date Analytical Batch** Analyzed By **Prep Batch** Run #1 BI2557.D 1 12/05/10 JD 12/02/10 OP23506 GBI96

Run #2

**Initial Weight Final Volume** 

Run #1 2.0 ml 11.2 g

Run #2

#### **Extractable TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C11-C22 Aromatics (Unadj.) C9-C18 Aliphatics C19-C36 Aliphatics C11-C22 Aromatics	421000 20100 143000 294000	20000 10000 10000 20000	ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	ts
84-15-1 321-60-8 580-13-2	o-Terphenyl 2-Fluorobiphenyl 2-Bromonaphthalene	135% 93% 61%		40-14 40-14 40-14	0%
3386-33-2	1-Chlorooctadecane	76%		40-14	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Page 1 of 1

 Client Sample ID:
 HA107\_0-4'

 Lab Sample ID:
 M96225-7

 Matrix:
 SO - Soil

 Date Received:
 11/30/10

 Percent Solids:
 88.4

**Project:** Former Energy International Parcel, MA

#### **Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	1.0	0.85	mg/kg	1	12/01/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Arsenic	11.2	0.85	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Barium	108	4.3	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Beryllium	0.50	0.34	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Cadmium	0.45	0.34	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Chromium	21.4	0.85	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Lead	231	0.85	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Mercury	1.4	0.071	mg/kg	2	12/07/10	12/08/10 PY	SW846 7471A <sup>2</sup>	SW846 7471A <sup>4</sup>
Nickel	16.8	3.4	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Selenium	1.3	0.85	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Silver	0.81	0.43	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Thallium	< 0.85	0.85	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Vanadium	27.5	0.85	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Zinc	214	1.7	mg/kg	1	12/01/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>

(1) Instrument QC Batch: MA12497(2) Instrument QC Batch: MA12500(3) Prep QC Batch: MP16325(4) Prep QC Batch: MP16345

Page 1 of 1

Client Sample ID: HA107\_0-4' Lab Sample ID: M96225-7 Matrix: SO - Soil

**Date Sampled:** 11/30/10 **Date Received:** 11/30/10 **Percent Solids:** 88.4

**Project:** Former Energy International Parcel, MA

### **General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	7.8			1	12/03/10	MA	SW846 CHAP7
Cyanide Reactivity	< 1.7	1.7	mg/kg	1	12/06/10	BF	SW846 CHAP7
Ignitability (Flashpoint)	> 230		Deg. F	1	12/06/10	BF	SW846 1020
Redox Potential Vs H2 <sup>a</sup>	441		mv	1	12/03/10	MC	ASTM D1498-76M
Solids, Percent	88.4		%	1	12/03/10	HS	SM21 2540 B MOD.
Sulfide Reactivity	< 57	57	mg/kg	1	12/06/10	BF	SW846 CHAP7

(a) Analysis requested after recommended holding time.

Page 1 of 1

Client Sample ID: HA107\_0-4'

Lab Sample ID: M96225-7A **Date Sampled:** 11/30/10 Matrix: SO - Soil **Date Received:** 11/30/10 **Percent Solids:** 88.4

Project: Former Energy International Parcel, MA

### Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	<b>Prep Method</b>
Lead	0.15	D008	5.0	0.010	mg/l	1	12/09/10	12/10/10 DA	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA12508

(2) Prep QC Batch: MP16354

RL = Reporting Limit

MCL = Maximum Contamination Level (40 CFR 261 6/96)



Page 1 of 3

Client Sample ID: HA107\_8-12'

 Lab Sample ID:
 M96225-8
 Date Sampled:
 11/30/10

 Matrix:
 SO - Soil
 Date Received:
 11/30/10

 Method:
 SW846 8260B
 Percent Solids:
 73.4

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 R18618.D 1 12/07/10 GK n/a n/a MSR663

Run #2

Initial Weight Final Volume Methanol Aliquot

Run #1 10.8 g 10.0 ml 100 ul

Run #2

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	410	ug/kg	
71-43-2	Benzene	ND	41	ug/kg	
108-86-1	Bromobenzene	ND	410	ug/kg	
74-97-5	Bromochloromethane	ND	410	ug/kg	
75-27-4	Bromodichloromethane	ND	160	ug/kg	
75-25-2	Bromoform	ND	160	ug/kg	
74-83-9	Bromomethane	ND	160	ug/kg	
78-93-3	2-Butanone (MEK)	ND	410	ug/kg	
104-51-8	n-Butylbenzene	ND	410	ug/kg	
135-98-8	sec-Butylbenzene	ND	410	ug/kg	
98-06-6	tert-Butylbenzene	ND	410	ug/kg	
75-15-0	Carbon disulfide	ND	410	ug/kg	
56-23-5	Carbon tetrachloride	ND	160	ug/kg	
108-90-7	Chlorobenzene	ND	160	ug/kg	
75-00-3	Chloroethane	ND	410	ug/kg	
67-66-3	Chloroform	ND	160	ug/kg	
74-87-3	Chloromethane	ND	410	ug/kg	
95-49-8	o-Chlorotoluene	ND	410	ug/kg	
106-43-4	p-Chlorotoluene	ND	410	ug/kg	
108-20-3	Di-Isopropyl ether	ND	160	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	410	ug/kg	
124-48-1	Dibromochloromethane	ND	160	ug/kg	
106-93-4	1,2-Dibromoethane	ND	160	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	160	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	160	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	160	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	160	ug/kg	
75-34-3	1,1-Dichloroethane	ND	160	ug/kg	
107-06-2	1,2-Dichloroethane	ND	160	ug/kg	
75-35-4	1,1-Dichloroethene	ND	160	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	160	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	160	ug/kg	

ND = Not detected

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E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



c

Client Sample ID: HA107\_8-12'

Lab Sample ID: M96225-8 **Date Sampled:** 11/30/10 Matrix: SO - Soil **Date Received:** 11/30/10 Method: SW846 8260B **Percent Solids:** 73.4

Former Energy International Parcel, MA **Project:** 

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	160	ug/kg	
142-28-9	1,3-Dichloropropane	ND	410	ug/kg	
594-20-7	2,2-Dichloropropane	ND	410	ug/kg	
563-58-6	1,1-Dichloropropene	ND	410	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	160	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	160	ug/kg	
123-91-1	1,4-Dioxane	ND	2000	ug/kg	
60-29-7	Ethyl Ether	ND	410	ug/kg	
100-41-4	Ethylbenzene	ND	160	ug/kg	
87-68-3	Hexachlorobutadiene	ND	410	ug/kg	
591-78-6	2-Hexanone	ND	410	ug/kg	
98-82-8	Isopropylbenzene	ND	410	ug/kg	
99-87-6	p-Isopropyltoluene	ND	410	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	160	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	410	ug/kg	
74-95-3	Methylene bromide	ND	410	ug/kg	
75-09-2	Methylene chloride	ND	160	ug/kg	
91-20-3	Naphthalene	1090	410	ug/kg	
103-65-1	n-Propylbenzene	ND	410	ug/kg	
100-42-5	Styrene	ND	410	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	410	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	160	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	410	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	160	ug/kg	
127-18-4	Tetrachloroethene	ND	160	ug/kg	
109-99-9	Tetrahydrofuran	ND	810	ug/kg	
108-88-3	Toluene	ND	410	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	410	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	410	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	160	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	160	ug/kg	
79-01-6	Trichloroethene	ND	160	ug/kg	
75-69-4	Trichlorofluoromethane	ND	160	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	410	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	410	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	410	ug/kg	
75-01-4	Vinyl chloride	ND	160	ug/kg	
	m,p-Xylene	ND	160	ug/kg	
95-47-6	o-Xylene	ND	160	ug/kg	
1330-20-7	Xylene (total)	ND	160	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$ N = Indicates presumptive evidence of a compound



Page 3 of 3

Client Sample ID: HA107\_8-12'

 Lab Sample ID:
 M96225-8
 Date Sampled:
 11/30/10

 Matrix:
 SO - Soil
 Date Received:
 11/30/10

 Method:
 SW846 8260B
 Percent Solids:
 73.4

**Project:** Former Energy International Parcel, MA

#### **VOA MCP List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		70-130%
2037-26-5	Toluene-D8	110%		70-130%
460-00-4	4-Bromofluorobenzene	108%		70-130%

ND = Not detected

RL = Reporting Limit

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J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$ 

N = Indicates presumptive evidence of a compound



C

Client Sample ID: HA107\_8-12'
Lab Sample ID: M96225-8

 Matrix:
 SO - Soil

 Method:
 SW846 8270C
 SW846 3545

**Project:** Former Energy International Parcel, MA

**Date Received:** 11/30/10 545 **Percent Solids:** 73.4

**Date Sampled:** 11/30/10

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 S19781.D 1 12/07/10 PR 12/03/10 OP23515 MSS816

Run #2

Initial Weight Final Volume

Run #1 20.2 g 1.0 ml

Run #2

#### **ABN MCP List**

Compound	Result	RL	Units	Q
Benzoic acid	ND	670	ug/kg	
2-Chlorophenol	ND	340	ug/kg	
4-Chloro-3-methyl phenol	ND	670	ug/kg	
2,4-Dichlorophenol	ND	670	ug/kg	
2,4-Dimethylphenol	ND	670	ug/kg	
2,4-Dinitrophenol	ND	1300	ug/kg	
2-Methylphenol	ND	670	ug/kg	
3&4-Methylphenol	727	670	ug/kg	
2-Nitrophenol	ND	670	ug/kg	
4-Nitrophenol	ND	1300	ug/kg	
Pentachlorophenol	ND	670	ug/kg	
Phenol	ND	340	ug/kg	
2,4,5-Trichlorophenol	ND	670	ug/kg	
2,4,6-Trichlorophenol	ND	670	ug/kg	
Acenaphthene	3830	340	ug/kg	
Acenaphthylene	471	340	ug/kg	
Acetophenone	ND	670	ug/kg	
Aniline	ND	670	ug/kg	
Anthracene	4020	340	ug/kg	
Benzo(a)anthracene	5400	340	ug/kg	
Benzo(a)pyrene	3260	340	ug/kg	
Benzo(b)fluoranthene	3300	340	ug/kg	
Benzo(g,h,i)perylene	998	340	ug/kg	
	2590	340	ug/kg	
4-Bromophenyl phenyl ether	ND	340	ug/kg	
Butyl benzyl phthalate	ND	340	ug/kg	
2-Chloronaphthalene	ND	340	ug/kg	
4-Chloroaniline	ND	670	ug/kg	
Chrysene	5550	340	ug/kg	
bis(2-Chloroethoxy)methane	ND	340	ug/kg	
bis(2-Chloroethyl)ether	ND	340	ug/kg	
bis(2-Chloroisopropyl)ether	ND	340	ug/kg	
	Benzoic acid 2-Chlorophenol 4-Chloro-3-methyl phenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol 2-Methylphenol 3&4-Methylphenol 2-Nitrophenol 4-Nitrophenol Pentachlorophenol Pentachlorophenol Pentachlorophenol 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol Acenaphthene Acenaphthylene Acetophenone Aniline Anthracene Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(b)fluoranthene 4-Bromophenyl phenyl ether Butyl benzyl phthalate 2-Chloroaphthalene 4-Chloroaniline Chrysene bis(2-Chloroethoxy)methane bis(2-Chloroethyl)ether	Benzoic acid 2-Chlorophenol ND 4-Chloro-3-methyl phenol ND 2,4-Dichlorophenol ND 2,4-Dimethylphenol ND 2,4-Dinitrophenol ND 2,4-Dinitrophenol ND 2-Methylphenol ND 3&4-Methylphenol ND 4-Nitrophenol ND Pentachlorophenol ND Pentachlorophenol ND Phenol ND 2,4,5-Trichlorophenol ND 2,4,5-Trichlorophenol ND Acenaphthene ND Acenaphthene ND Aniline ND Anthracene Benzo(a)anthracene Benzo(b)fluoranthene Senzo(b,fluoranthene ND A-Boryon ND A-Chloroaphthalate ND Chrysene S550 bis(2-Chloroethoxy)methane bis(2-Chloroethoxy)methane bis(2-Chloroethyl)ether ND	Benzoic acid         ND         670           2-Chlorophenol         ND         340           4-Chloro-3-methyl phenol         ND         670           2,4-Dichlorophenol         ND         670           2,4-Dimethylphenol         ND         670           2,4-Dinitrophenol         ND         1300           2-Methylphenol         ND         670           3&4-Methylphenol         727         670           2-Nitrophenol         ND         670           4-Nitrophenol         ND         670           4-Nitrophenol         ND         670           Phenol         ND         670           2,4,5-Trichlorophenol         ND         670           Acenaphthene         3830         340           Acenaphthylene         471         340           Acetophenone         ND         670           Aniline         ND         670           Anthracene         4020         340           Benzo(a)anthracene         5400         340           Benzo(b)fluoranthene         3300         340           Benzo(k)fluoranthene         2590         340           Benzo(k)fluoranthene         2590	Benzoic acid         ND         670         ug/kg           2-Chlorophenol         ND         340         ug/kg           4-Chloro-3-methyl phenol         ND         670         ug/kg           2,4-Dichlorophenol         ND         670         ug/kg           2,4-Dimethylphenol         ND         670         ug/kg           2,4-Dinitrophenol         ND         670         ug/kg           2-Methylphenol         ND         670         ug/kg           2-Methylphenol         ND         670         ug/kg           2-Nitrophenol         ND         670         ug/kg           4-Nitrophenol         ND         670         ug/kg           Pentachlorophenol         ND         670         ug/kg           2,4,5-Trichlorophenol         ND         670         ug/kg           Acenaphthene         3830         340         ug/kg           Acenaphthylene         <

ND = Not detected RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



**Date Sampled:** 11/30/10

**Date Received:** 11/30/10

**Percent Solids:** 73.4

Client Sample ID: HA107\_8-12' Lab Sample ID: M96225-8

Matrix: SO - Soil

**Method:** SW846 8270C SW846 3545

**Project:** Former Energy International Parcel, MA

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units Q
95-50-1	1,2-Dichlorobenzene	ND	340	ug/kg
122-66-7	1,2-Diphenylhydrazine	ND	340	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	340	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	340	ug/kg
121-14-2	2,4-Dinitrotoluene	ND	670	ug/kg
606-20-2	2,6-Dinitrotoluene	ND	670	ug/kg
91-94-1	3,3'-Dichlorobenzidine	ND	340	ug/kg
53-70-3	Dibenzo(a,h)anthracene	542	340	ug/kg
132-64-9	Dibenzofuran	2010	340	ug/kg
84-74-2	Di-n-butyl phthalate	ND	340	ug/kg
117-84-0	Di-n-octyl phthalate	ND	340	ug/kg
84-66-2	Diethyl phthalate	ND	340	ug/kg
131-11-3	Dimethyl phthalate	ND	340	ug/kg
117-81-7	bis(2-Ethylhexyl)phthalate	ND	340	ug/kg
206-44-0	Fluoranthene	10500	340	ug/kg
86-73-7	Fluorene	3610	340	ug/kg
118-74-1	Hexachlorobenzene	ND	340	ug/kg
87-68-3	Hexachlorobutadiene	ND	340	ug/kg
77-47-4	Hexachlorocyclopentadiene	ND	670	ug/kg
67-72-1	Hexachloroethane	ND	340	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	1150	340	ug/kg
78-59-1	Isophorone	ND	340	ug/kg
91-57-6	2-Methylnaphthalene	2010	340	ug/kg
91-20-3	Naphthalene	5360	340	ug/kg
98-95-3	Nitrobenzene	ND	340	ug/kg
621-64-7	N-Nitroso-di-n-propylamine	ND	340	ug/kg
86-30-6	N-Nitrosodiphenylamine	ND	340	ug/kg
85-01-8	Phenanthrene	12700	340	ug/kg
129-00-0	Pyrene	7840	340	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	340	ug/kg
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	61%		30-130%
4165-62-2	Phenol-d5	62%		30-130%
118-79-6	2,4,6-Tribromophenol	77%		30-130%
4165-60-0	Nitrobenzene-d5	56%		30-130%
321-60-8	2-Fluorobiphenyl	70%		30-130%
1718-51-0	Terphenyl-d14	61%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



M96225

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Client Sample ID: HA107\_8-12'

Lab Sample ID:M96225-8Date Sampled:11/30/10Matrix:SO - SoilDate Received:11/30/10Method:MADEP VPH REV 1.1Percent Solids:73.4

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BH17799.D 1 12/07/10 AP n/a n/a GBH926

Run #2

Run #1 10.8 g 11.0 ml Methanol Aliquot

Run #1 10.8 g 11.0 ml Run #2

**Volatile TPHC Ranges** 

CAS No.	Compound	Result	RL	Units	Q
	C5- C8 Aliphatics (Unadj.)	ND	8700	ug/kg	
	C9- C12 Aliphatics (Unadj.)	ND	8700	ug/kg	
	C9- C10 Aromatics (Unadj.)	ND	8700	ug/kg	
	C5- C8 Aliphatics	ND	8700	ug/kg	
	C9- C12 Aliphatics	ND	8700	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	ts
615-59-8	2,5-Dibromotoluene	121%		70-13	30%
615-59-8	2,5-Dibromotoluene	110%		70-13	30%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



G

Page 1 of 1

Page 1 of 1

Client Sample ID: HA107\_8-12'

Lab Sample ID: M96225-8 **Date Sampled:** 11/30/10 Matrix: SO - Soil **Date Received:** 11/30/10 Method: MADEP EPH REV 1.1 SW846 3550B **Percent Solids:** 73.4

**Project:** Former Energy International Parcel, MA

File ID DF **Prep Date Analytical Batch** Analyzed By **Prep Batch** Run #1 BI2558.D 1 12/05/10 JD 12/02/10 OP23506 GBI96

Run #2

**Initial Weight Final Volume** 

Run #1 2.0 ml 11.2 g

Run #2

#### **Extractable TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C11-C22 Aromatics (Unadj.) C9-C18 Aliphatics C19-C36 Aliphatics C11-C22 Aromatics	494000 31500 123000 374000	24000 12000 12000 24000	ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	ts
84-15-1	o-Terphenyl	128%		40-14	
321-60-8	2-Fluorobiphenyl	91%		40-14	40%
580-13-2	2-Bromonaphthalene	88%		40-14	40%
3386-33-2	1-Chlorooctadecane	51%		40-14	40%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



### Page 1 of 1

# **Report of Analysis**

 Client Sample ID:
 HA107\_8-12'

 Lab Sample ID:
 M96225-8

 Date Sampled:
 11/30/10

 Matrix:
 SO - Soil

 Date Received:
 11/30/10

 Percent Solids:
 73.4

**Project:** Former Energy International Parcel, MA

#### **Metals Analysis**

Analyte	Result	RL	Units D	DF	Prep	Analyzed By	Method	<b>Prep Method</b>
Antimony	< 1.0	1.0	mg/kg 1	l	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Arsenic	7.8	1.0	mg/kg 1	l	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Barium	165	5.1	mg/kg 1	l	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Beryllium	0.50	0.41	mg/kg 1	l	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Cadmium	< 0.41	0.41	mg/kg 1	l	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Chromium	20.6	1.0	mg/kg 1	l	12/02/10	12/02/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Lead	338	1.0	mg/kg 1	l	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Mercury	1.8	0.18	mg/kg 5	5	12/07/10	12/08/10 PY	SW846 7471A <sup>2</sup>	SW846 7471A <sup>4</sup>
Nickel	15.5	4.1	mg/kg 1	l	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Selenium	< 1.0	1.0	mg/kg 1	l	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Silver	0.77	0.51	mg/kg 1	l	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Thallium	< 1.0	1.0	mg/kg 1	l	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Vanadium	27.0	1.0	mg/kg 1	l	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Zinc	198	2.0	mg/kg 1	l	12/02/10	12/02/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>

(1) Instrument QC Batch: MA12490(2) Instrument QC Batch: MA12500(3) Prep QC Batch: MP16330(4) Prep QC Batch: MP16345

## Report of Analysis

Page 1 of 1

Client Sample ID: HA107\_8-12' Lab Sample ID: M96225-8 Matrix: SO - Soil

Date Sampled: 11/30/10Date Received: 11/30/10Percent Solids: 73.4

**Project:** Former Energy International Parcel, MA

#### **General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	7.7			1	12/03/10	MA	SW846 CHAP7
Cyanide Reactivity	< 2.0	2.0	mg/kg	1	12/06/10	BF	SW846 CHAP7
Ignitability (Flashpoint)	> 230		Deg. F	1	12/06/10	BF	SW846 1020
Redox Potential Vs H2 <sup>a</sup>	426		mv	1	12/03/10	MC	ASTM D1498-76M
Solids, Percent	73.4		%	1	12/02/10	HS	SM21 2540 B MOD.
Sulfide Reactivity	< 68	68	mg/kg	1	12/06/10	BF	SW846 CHAP7

(a) Analysis requested after recommended holding time.

## **Report of Analysis**

Page 1 of 1

Client Sample ID: HA107\_8-12'

Lab Sample ID:M96225-8ADate Sampled:11/30/10Matrix:SO - SoilDate Received:11/30/10Percent Solids:73.4

**Project:** Former Energy International Parcel, MA

#### Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	<b>Prep Method</b>
Lead	0.50	D008	5.0	0.010	mg/l	1	12/07/10	12/07/10 DA	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA12502(2) Prep QC Batch: MP16339

RL = Reporting Limit

MCL = Maximum Contamination Level (40 CFR 261 6/96)



c



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Parameter Certifications (MA)
- · Chain of Custody
- MCP Form
- EPH Form
- VPH Form
- Sample Tracking Chronicle

#### **Parameter Certification Exceptions** Job Number: M96225

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA Project:

The following parameters included in this report are exceptions to NELAC certification. The certification status of each is indicated below.

Parameter	CAS#	Method	Mat	Certification Status
tert-Amyl Methyl Ether	994-05-8	SW846 8260B	SO	Certified by SOP MMS105/GC-MS
tert-Butyl Ethyl Ether	637-92-3	SW846 8260B	SO	Certified by SOP MMS105/GC-MS
Di-Isopropyl ether Tetrahydrofuran	108-20-3 109-99-9	SW846 8260B SW846 8260B	SO SO	Certified by SOP MMS105/GC-MS Certified by SOP MMS105/GC-MS

HALEY 465 M ALDRICH Suite 2	& Aldrich, Inc. edford St., 200, , MA 02129-1400	CHAIN OF CU	JSTODY RECOR	Phone (617) 886-7400 Fax (617) 886-7600 Page \ of \ \
I&A FILE NO	18	LABORATORY ACCUTE	EST DELIVE	ERY DATE 1 20/26/15
ROJECT NAME FORME	R ENERGY INTERNATIO	VAL PARTISODRESS THERWINE	JARL BORCVETHIMA TURNA	
I&A CONTACT	KULLMAN	CONTACT K. GIBBO		CT MANAGER C. WERTHY
Sample No.	Date Time Depth T	Pre Mark (disposed) Hall Strategy (disposed) H	Requested  August Manager Container  August Manager Ma	
HA10.0-4' 111	20/0 C800 C-4' SO		× A W	Laboratory to use applicable DEP CAM methods, unless other
HAIR4-81	1 0835 431	YXX XX	× (N) I	directed.
	1000 0.41		a programme in the contract of the contract of the contract of the contract of the contract of the contract of	1 0 WC 8260
HA109_ 8-12	1055 8-12		$\approx$ $4$	
HA108 - 0-41	1230 0-4			- A LILLERA GOID+7470
	and the control to be designed as well as the company of the control to the contr		$\Rightarrow$	10 PH Colones WARE
HA108-48	1305 4-8		S Y	6 Wester Characteristics
HA107-0-4	1410 0 4	mana mana of	×	(5) EtH Clarges MYDD 04-
HA107_8-12'	1505 8-12	XXX AX	X	
) HAICT 8-12_MS	1510 8-12 1			16 White Uwacteristics
impled and Relinquished by	Received by	LIC	2000 (33 10TAL)	Sampling Comments
# Miller 1.	Sign War Man	<b>&gt;  </b>	VOA Vial	if metals exceed 200x PCPA
in Shafflu It care	Print WATER MONT	ν	Amber Glass	Funtale limit
", JE/Ju 1-31	Firm		Plastic Bottle	water water and the control of the c
ate 11 30/10 Time 154 (			Preservative	if torce > 30 mg/kg on hex cr and other
	Received by		Volume	I An hex Cr and other
way mon	Sign Way m		LID	Wiessay tests
int	Print	×	VOA Vial	MALES AND AND AND AND AND AND AND AND AND AND
rm ste 1/-30-10 <sub>Time</sub>	Pirm Date 1/70-10 Time 630	L/X	Amber Glass	
elinguished by	Received by		Clear Glass	
en	Sign	A6A	Preservative Volume	Evidence samples were tampered with? YES NO
int	Print	10 31/2	ATION KEY	If YES, please explain in section below.
rm	Firm			166 1083
ite Time	Date Time		H <sub>2</sub> SO <sub>4</sub> G Methanol HCL H Water/NaHSO4 (circle)	150,10133
		Presumptive Certainty Data Package (Laboratory to		
Presumptive Certainty Data Packag	,			Required Reporting Limits and Data Quality Objectives
		VII have been or will be collected, as appropriate, to meet	the requirements of Presumptive Certainty.	
This Chain of Custody Reco	for MCP Metals and/or Cyanide are include ord (specify) includes	1 and identified herein. _does not include samples defined as Drinking Water Sam	ples	□ RC-S1 □ S1 □ GW1 □ RC-S2 □ S2 □ GW2
-			•	I
as appropriate. Laboratory	cord identifies samples defined as Drinking should (specify if applicable) ana	Vater Samples, Trip Blanks and Field Duplicates are includ	led and identified and analysis of TICs are require	d, □ RC-GW2

M96225: Chain of Custody Page 1 of 1





## Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup

WSC-CAM	Exhibit VII A
July 1, 2010	Revision No. 1
Final	Page 13 of 38

#### Exhibit VII A-2: MassDEP Analytical Protocol Certification Form

	MassDEP Analytical Protocol Certification Form									
Labo	ratory Name:	Accutest Laboratorie	s of New England		F	Project #:	M962	25		
Proje	ct Location:	Former Energy Inter	national Parcel. MA		N	MADEP RTN	None			
	Former Energy International Parcel, MA  This form provides certifications for the following data set: list Laboratory Sample ID Numbers(s)  M96225-1,M96225-2,M96225-2A,M96225-3,M96225-3A,M96225-4A,M96225-4A  M96225-5,M96225-5A,M96225-6A,M96225-6A,M96225-7A,M96225-7A,M96225-8A, M96225-8AS,M96225-8D,M96225-8S  M96225-8AD,  Test method: Refer to case narrative.									
Matric	res: Groundwater  Protocol (check all that	• • • • • • • • • • • • • • • • • • • •	Soil/Sediment (X)	Drinking Water	() A	Air (	)		Other	()
CAIVI	•	T	l., 5=5,/5/. 00	laas	l.				<u> </u>	
	8260 VOC (X)	] " ' '	MassDEP VPH (X)		` ′ [		()		Mass DEP APH	()
	CAM IIA 8270 SVOC (X) CAM II B	7010 Metals ()	CAM IV A  MassDEP EPH (X) CAM IV B	8151 Herbicides CAM V C	() 8	CAM VI B 8330 Explosives CAM VIII A	()		TO-15 VOC CAM IX B	()
	6010 Metals (X) CAM III A	6020 Metals () CAM III D	8082 PCB () CAM V A		() 6	6860 Perchlorate CAM VIII B	()			
	Affirmative Respons	ses to Questions A	Through F are requi	red for "Presump	otive	Certainty status	5			
A	Were all samples rec properly preserved (in method holding times	ncluding temperature) s?	in the field or labora	tory, and prepared	/ana	llyzed within	<b>V</b>	Yes	☐ No	
В	Were the analytical m protocol(s) followed?	. ,	•				<b>V</b>	Yes	☐ No	
С	Were all required cor protocol(s) implement			•		elected CAM	<b>V</b>	Yes	□No	
D	Does the laboratory r	eport comply with all t nd Quality Control Gu	he reporting requiren	nents specified in (		1 VII A,	<b>V</b>	Yes	□No	
E	VPH, EPH, APH, and a. VPH, EPH, and AF modification(s)? (Ref	•		•			<b>√</b>	Yes	□No	
	b. APH and TO-15 M Were all applicable C						✓ ✓	Yes Yes	□ No □ No	
F	and evaluated in a lat							165		
	Responses to quest	tions G, H, and I belo	ow is required for "I	Presumptive Cert	ainty	y" status				
G	Were the reporting lin selected CAM protoc	ols					<b>V</b>	Yes	□ No ¹	1
	and representativen	ta that achieve "Pres less requirements de	escribed in 310 CMI	R 40.1056(2)(k) an			data u	seabi		
	Were all QC perform				oroto	2001(2)2		Yes	✓ No	
1	Were results reported  All Negative respon	•	•				tive.	Yes	⊻ No ′	
inqu	undersigned, attest iry of those responsi	under the pains and ble for obtaining the	penalties of perjury information, the m	that, based upor aterial contained	n my in tl	y personal				
	ature:	or fall	/			oratory Director				
Print	ed Name:	Reza Tand		Date:	1	12/20/2010				



Matrix	Aqueous	Soil 🗸	Sediment	Other			
Containers	Satisfactory <b>✓</b> B	Broken 🗌	Leaking				
Aqueous Preservative	N/A ✓ p	H <= 2	pH > 2				
Temperature	Received on Ice	Receive	ed at 4 Deg. C	Other	<b>✓</b>	Rec'd at 2.3 deg C.	
Extraction Method	SW846 3550B						
Method for Ranges: MA	ADEP EPH REV 1.1	Client ID:	HA110_0-4'	La	ab ID:	M96225-1	
Method for Targets: MA	ADEP EPH REV 1.1	Date Collected:	11/30/2010	Date Rece	eived:	11/30/2010	
EPH Surrogate Stds. Ali	phatic: 1-Chlorooctadecane	Date Extracte	d: First Da	te Run:		Last Date Run:	
Ar	omatic: o-Terphenyl	12/2/2010	12/4/	2010		N/A	
EPH Fractionation 2-I	Fluorobiphenyl	% Solids:	Low Di	lution:		High Dilution:	
Currenete Ctenderde	Bromonaphthalene	87.5	1			N/A	
Unadjusted Ranges	CAS#	<u>Units</u>	Result	RDL	Q		
C11-C22 Aromatics (Un	adj.)	ug/kg	527000 <sup>A</sup>	19000			

Adjusted Ranges			
C9-C18 Aliphatics	ug/kg	21000 A	9700
C19-C36 Aliphatics	ug/kg	102000 <sup>A</sup>	9700
C11-C22 Aromatics	ug/kg	351000 <sup>c</sup>	19000
Surrogate Recoveries			Acceptance Range
1-Chlorooctadecane	%	70	40-140 %
o-Terphenyl	%	142 <sup>E</sup>	40-140 %
2-Fluorobiphenyl	%	73	40-140 %
2-Bromonaphthalene	%	42	40-140 %

#### **Footnotes**

- A Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range
- C Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range. C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes
- E Outside control limits due to possible matrix interference.
- Z A 'J' qualifier indicates an estimated value

**Printed Name** 

Were all QA/QC procedures REQUIRED by the EPH Method followed?	✓ Yes	No- Details Attatched
Were all performance/acceptance standards for required QA/QC procedures achieved?	Yes 🗸	No- Details Attatched
Were any significant modifications made to the EPH method, as specified in Sect. 11.3?	✓ No 🗌	Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature Postition Laboratory Director

Reza Tand Date 12/20/2010



			•			
Matrix	Aqueous	Soil 🗸	Sediment	Other		
Containers	Satisfactory <b>✓</b> E	Broken 🗌	Leaking			
Aqueous Preservati	ve N/A ☑ p	H <= 2 □	pH > 2			
Temperature	Received on Ice	Received	at 4 Deg. C	Other	<b>√</b>	Rec'd at 2.3 deg C.
Extraction Method	SW846 3550B					
Method for Ranges: Method for Targets:	MADEP EPH REV 1.1	Client ID: H Date Collected: 1	_	Lab Date Receiv	D: ved:	M96225-2 11/30/2010
EPH Surrogate Stds.	Aliphatic: 1-Chlorooctadecane Aromatic: o-Terphenyl 2-Fluorobiphenyl	Date Extracted: 12/2/2010 % Solids: 83.5		ite Run: /2010 ilution:		Last Date Run: N/A High Dilution:
Surrogate Standards. <u>Unadjusted Ranges</u> C11-C22 Aromatics	2-Bromonaphthalene  CAS #  (Unadj.)	Units ug/kg	Result 183000 <sup>A</sup>	RDL 20000	Q	N/A

Adjusted Ranges			
C9-C18 Aliphatics	ug/kg	27200 <sup>A</sup>	10000
C19-C36 Aliphatics	ug/kg	106000 <sup>A</sup>	10000
C11-C22 Aromatics	ug/kg	154000 <sup>c</sup>	20000
Surrogate Recoveries			Acceptance Range
1-Chlorooctadecane	%	51	40-140 %
o-Terphenyl	%	98	40-140 %
2-Fluorobiphenyl	%	103	40-140 %
2-Bromonaphthalene	%	99	40-140 %

#### **Footnotes**

✓ Yes □ Were all QA/QC procedures REQUIRED by the EPH Method followed? No- Details Attatched ✓ Yes 🗌 Were all performance/acceptance standards for required QA/QC procedures achieved? No- Details Attatched Were any significant modifications made to the EPH method, as specified in Sect. 11.3? ✓ No Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtainig the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature /

**Postition** 

**Laboratory Director** 

Date 12/20/2010 **Printed Name Reza Tand** 



Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range. C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

A 'J' qualifier indicates an estimated value

			• • • • • • • • • • • • • • • • • • • •			
Matrix	Aqueous	Soil ✓	Sediment	Other		
Containers	Satisfactory <b>✓</b>	Broken □	Leaking [			
Aqueous Preservati	ve N/A ☑ p	)H <= 2 □	pH > 2			
Temperature	Received on Ice	Received	at 4 Deg. C	Other	<b>✓</b>	Rec'd at 2.3 deg C.
Extraction Method	SW846 3550B					
Method for Ranges:	MADEP EPH REV 1.1	Client ID: ⊢	IA109_0-4'	La	b ID:	M96225-3
Method for Targets:	MADEP EPH REV 1.1	Date Collected: 1	1/30/2010	Date Rece	ived:	11/30/2010
EPH Surrogate Stds.	Aliphatic: 1-Chlorooctadecane	Date Extracted:	First Da	ite Run:		Last Date Run:
-	Aromatic: o-Terphenyl	12/2/2010	12/5	/2010		N/A
EPH Fractionation	2-Fluorobiphenyl	% Solids:	Low D	ilution:		High Dilution:
Surrogate Standards.	2-Bromonaphthalene	88.8	,	1		N/A
Unadjusted Ranges	CAS #	<u>Units</u>	Result	RDL	Q	
C11-C22 Aromatics	(Unadj.)	ug/kg	1350000 <sup>A</sup>	20000		

ug/kg	15400 <sup>A</sup>	9900
ug/kg	255000 <sup>A</sup>	9900
ug/kg	1130000 <sup>c</sup>	20000
		Acceptance Range
%	71	40-140 %
%	318 <sup>E</sup>	40-140 %
%	88	40-140 %
%	72	40-140 %
	ug/kg ug/kg % %	ug/kg 255000 <sup>A</sup> ug/kg 1130000 <sup>C</sup> % 71 % 318 <sup>E</sup> % 88

#### **Footnotes**

- A Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range
- C Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range. C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes
- E Outside control limits due to possible matrix interference.
- Z A 'J' qualifier indicates an estimated value

Were all QA/QC procedures REQUIRED by the EPH Method followed?	✓ Yes	No- Details Attatched
Were all performance/acceptance standards for required QA/QC procedures achieved?	Yes 🗸	No- Details Attatched
Were any significant modifications made to the EPH method, as specified in Sect. 11.3?	✓ No 🗌	Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature Postition Laboratory Director

Printed Name Reza Tand Date 12/20/2010



			. •				
Matrix	Aqueous 🗌	Soil 🗸	Sediment _	Other			
Containers	Satisfactory <b>✓</b> B	Broken 🗌	Leaking				
Aqueous Preservative	N/A ✓ p	H <= 2 🗌	pH > 2				
Temperature	Received on Ice	Receive	ed at 4 Deg. C	Other	✓	Rec'd at 2.3 deg C.	
Extraction Method	SW846 3550B						
Method for Ranges: M	IADEP EPH REV 1.1	Client ID:	HA109_8-12'	La	ab ID:	M96225-4	
Method for Targets: N	IADEP EPH REV 1.1	Date Collected:	11/30/2010	Date Rece	ived:	11/30/2010	
EPH Surrogate Stds. A	liphatic: 1-Chlorooctadecane	Date Extracted	d: First Date	e Run:		Last Date Run:	
A	romatic: o-Terphenyl	12/2/2010	12/5/2	010		N/A	
EPH Fractionation 2	-Fluorobiphenyl	% Solids:	Low Dile	ution:		High Dilution:	
Commanda Ctandanda	-Bromonaphthalene	83.8	1			N/A	
	'		Daguit	BDI	_		
Unadjusted Ranges	CAS#	<u>Units</u>	Result	RDL	Q		
C11-C22 Aromatics (U	nadj.)	ug/kg	168000 <sup>A</sup>	21000			

Adjusted Ranges			
C9-C18 Aliphatics	ug/kg	24800 <sup>A</sup>	11000
C19-C36 Aliphatics	ug/kg	107000 <sup>A</sup>	11000
C11-C22 Aromatics	ug/kg	134000 <sup>c</sup>	21000
Surrogate Recoveries			Acceptance Range
1-Chlorooctadecane	%	44	40-140 %
1-Chlorooctadecane o-Terphenyl	% %	44 80	40-140 % 40-140 %
o-Terphenyl	%	80	40-140 %

#### **Footnotes**

Were all QA/QC procedures REQUIRED by the EPH Method followed?

Were all performance/acceptance standards for required QA/QC procedures achieved?

Were any significant modifications made to the EPH method, as specified in Sect. 11.3?

Yes No- Details Attatched

Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature / /

Postition

**Laboratory Director** 

Printed Name Reza Tand Date 12/20/2010



A Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

C Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range. C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

Z A 'J' qualifier indicates an estimated value

			. •			
Matrix	Aqueous	Soil 🗸	Sediment [	Other		
Containers	Satisfactory <b>✓</b>	Broken 🗌	Leaking			
Aqueous Preservati	ve N/A ✓	oH <= 2 □	pH > 2			
Temperature	Received on Ice	Receive	d at 4 Deg. C	Other	<b>√</b>	Rec'd at 2.3 deg C.
Extraction Method	SW846 3550B					
Method for Ranges: Method for Targets:	MADEP EPH REV 1.1	Client ID: 1 Date Collected: 1		La Date Rece	b ID: ived:	M96225-5 11/30/2010
EPH Fractionation	Aliphatic: 1-Chlorooctadecane Aromatic: o-Terphenyl 2-Fluorobiphenyl	Date Extracted: 12/2/2010 % Solids:	12/5	ate Run: /2010 ilution:		Last Date Run: N/A High Dilution:
Surrogate Standards.	2-Promonaphthalene	87.4		1		N/A
Unadjusted Ranges	CAS#	<u>Units</u>	Result	RDL	Q	
C11-C22 Aromatics	(Unadj.)	ug/kg	167000 <sup>A</sup>	20000		

Adjusted Ranges			
C9-C18 Aliphatics	ug/kg	22300 <sup>A</sup>	10000
C19-C36 Aliphatics	ug/kg	111000 <sup>A</sup>	10000
C11-C22 Aromatics	ug/kg	135000 <sup>c</sup>	20000
Surrogate Recoveries			Acceptance Range
1-Chlorooctadecane	%	66	40-140 %
o-Terphenyl	%	127	40-140 %
2-Fluorobiphenyl	%	96	40-140 %
2-Bromonaphthalene	%	78	40-140 %

#### **Footnotes**

✓ Yes □ Were all QA/QC procedures REQUIRED by the EPH Method followed? No- Details Attatched ✓ Yes 🗌 Were all performance/acceptance standards for required QA/QC procedures achieved? No- Details Attatched Were any significant modifications made to the EPH method, as specified in Sect. 11.3? ✓ No Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature /

**Postition** 

**Laboratory Director** 

**Printed Name** 

**Reza Tand** 

Date 12/20/2010



Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range. C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

A 'J' qualifier indicates an estimated value

			. •			
Matrix	Aqueous	Soil 🗸	Sediment	Other		
Containers	Satisfactory✓	Broken 🗌	Leaking [			
Aqueous Preservati	ve N/A ✓	oH <= 2 □	pH > 2			
Temperature	Received on Ice	Receive	d at 4 Deg. C	Other	<b>√</b>	Rec'd at 2.3 deg C.
Extraction Method	SW846 3550B					
Method for Ranges:	MADEP EPH REV 1.1	Client ID:	HA108_4-8'	La	ab ID:	M96225-6
Method for Targets:	MADEP EPH REV 1.1	Date Collected:	11/30/2010	Date Rece	eived:	11/30/2010
EPH Surrogate Stds.	Aliphatic: 1-Chlorooctadecane	Date Extracted	l: First Da	ite Run:		Last Date Run:
<u> </u>	Aromatic: o-Terphenyl	12/2/2010	12/5/	/2010		N/A
EPH Fractionation	2-Fluorobiphenyl	% Solids:	Low D	ilution:		High Dilution:
Surrogate Standards.	2-Bromonaphthalene	83.3		1		N/A
Unadjusted Ranges	CAS#	<u>Units</u>	Result	RDL	Q	
C11-C22 Aromatics	s (Unadj.)	ug/kg	57500 <sup>A</sup>	21000		

Adjusted Ranges			
C9-C18 Aliphatics	ug/kg	13700 <sup>A</sup>	11000
C19-C36 Aliphatics	ug/kg	ND <sup>A</sup>	11000
C11-C22 Aromatics	ug/kg	35800 <sup>c</sup>	21000
Surrogate Recoveries			Acceptance Range
1-Chlorooctadecane	%	11 <sup>F</sup>	40-140 %
o-Terphenyl	%	56	40-140 %
2-Fluorobiphenyl	%	110	40-140 %
2-Bromonaphthalene	%	86	40-140 %
2 2.0	• •		

#### **Footnotes**

- A Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range
- C Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range. C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes
- F Outside control limits due to possible matrix interference. Confirmed by refractionation.
- Z A 'J' qualifier indicates an estimated value

Were all QA/QC procedures REQUIRED by the EPH Method followed?	✓ Yes 🗌	No- Details Attatched
Were all performance/acceptance standards for required QA/QC procedures achieved?	Yes 🗸	No- Details Attatched
Were any significant modifications made to the EPH method, as specified in Sect. 11.3?	✓ No 🗌	Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature /

Postition

**Laboratory Director** 

Printed Name Reza Tand

Date

12/20/2010



			•			
Matrix	Aqueous	Soil <b>✓</b>	Sediment [	Other		
Containers	Satisfactory <b>✓</b>	Broken 🗌	Leaking			
Aqueous Preservati	ive N/A ✓	oH <= 2 □	pH > 2			
Temperature	Received on Ice	Received	at 4 Deg. C	Other	<b>✓</b>	Rec'd at 2.3 deg C.
Extraction Method	SW846 3550B					
Method for Ranges: Method for Targets:	MADEP EPH REV 1.1 MADEP EPH REV 1.1	Client ID: HA Date Collected: 11/	_		b ID: ived:	M96225-7 11/30/2010
EPH Surrogate Stds.	Aliphatic: 1-Chlorooctadecane Aromatic: o-Terphenyl	Date Extracted: 12/2/2010 % Solids:	12/5	ate Run: /2010		Last Date Run:
EPH Fractionation Surrogate Standards.	2-Fluorobiphenyl 2-Bromonaphthalene	88.4	Low D	ilution: 1		High Dilution: N/A
Unadjusted Ranges	CAS#	<u>Units</u>	Result	RDL	Q	
C11-C22 Aromatics	(Unadi.)	ua/ka	421000 <sup>A</sup>	20000		

Adjusted Ranges			
C9-C18 Aliphatics	ug/kg	20100 <sup>A</sup>	10000
C19-C36 Aliphatics	ug/kg	143000 <sup>A</sup>	10000
C11-C22 Aromatics	ug/kg	<b>294000</b> <sup>c</sup>	20000
Surrogate Recoveries			Acceptance Range
1-Chlorooctadecane	%	76	40-140 %
o-Terphenyl	%	135	40-140 %
2-Fluorobiphenyl	%	93	40-140 %
2-Bromonaphthalene	%	61	40-140 %

#### **Footnotes**

✓ Yes □ Were all QA/QC procedures REQUIRED by the EPH Method followed? No- Details Attatched ✓ Yes 🗌 Were all performance/acceptance standards for required QA/QC procedures achieved? No- Details Attatched Were any significant modifications made to the EPH method, as specified in Sect. 11.3? ✓ No Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtainig the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature /

**Postition** 

**Laboratory Director** 

**Printed Name Reza Tand**  Date

12/20/2010



Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range. C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

A 'J' qualifier indicates an estimated value

Matrix	Aqueous	Soil 🗸	Sediment $\square$	Other			
Containers	Satisfactory <b>✓</b> B	Broken 🗌	Leaking 🗌				
<b>Aqueous Preservative</b>	N/A ✓ p	H <= 2 □	pH > 2 ☐				
Temperature	Received on Ice	Receive	ed at 4 Deg. C	Other	<b>✓</b>	Rec'd at 2.3 deg C.	
Extraction Method	SW846 3550B						
Method for Ranges: M.	ADEP EPH REV 1.1	Client ID:	HA107_8-12'	La	ab ID:	M96225-8	
-	ADEP EPH REV 1.1	Date Collected:	11/30/2010	Date Rece	eived:	11/30/2010	
EPH Surrogate Stds. Al	iphatic: 1-Chlorooctadecane	Date Extracted	d: First Date	Run:		Last Date Run:	
Ar	romatic: o-Terphenyl	12/2/2010	12/5/20	010		N/A	
EPH Fractionation 2-	Fluorobiphenyl	% Solids:	Low Dilu	tion:		High Dilution:	
Currente Ctenderde	Bromonaphthalene	73.4	1			N/A	
Unadjusted Ranges	CAS#	Units	Result	RDL	Q		
C11-C22 Aromatics (Ur		ua/ka	494000 A	24000	_		

Ad	<u>justed Ranges</u>			
	C9-C18 Aliphatics	ug/kg	31500 <sup>A</sup>	12000
	C19-C36 Aliphatics	ug/kg	123000 <sup>A</sup>	12000
	C11-C22 Aromatics	ug/kg	374000 <sup>c</sup>	24000
Su	rrogate Recoveries			Acceptance Range
	1-Chlorooctadecane	%	51	40-140 %
	o-Terphenyl	%	128	40-140 %
	2-Fluorobiphenyl	%	91	40-140 %
	2-Bromonaphthalene	%	88	40-140 %

#### **Footnotes**

Were all QA/QC procedures REQUIRED by the EPH Method followed?

Were all performance/acceptance standards for required QA/QC procedures achieved?

Were any significant modifications made to the EPH method, as specified in Sect. 11.3?

Yes No- Details Attatched

Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature P

Postition <u>Laboratory Director</u>

Printed Name Reza Tand Date 12/20/2010



A Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

C Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range. C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

Z A 'J' qualifier indicates an estimated value

WADEF VEHI ONW										
Matrix	Aqueous	Soil <b>✓</b>	Sediment [	Other						
Containers	Satisfactory <b>✓</b>	Broken	Leaking							
<b>Aqueous Preservatives</b>	N/A ✓	pH <= 2 □	pH > 2							
Temperature	Received on Ice	Received	d at 4 Deg. C	Other •	Rec'd at 2.3 de	g C.				
Methanol	Methanol Covering	g Soil. (mL Methar	nol/g soil: 1:1 +	·/- 25%)						
Method for Ranges:	MADEP VPH REV 1.1	Client ID: HA	110_0-4'	Lab ID:	M96225-1					
Method for Target Analytes:	MADEP VPH REV 1.1	Date Collected: 11/	30/2010	Date Received:	11/30/2010					
VPH Surrogate Standards		Date Extracted:	First Date	e Run:	Last Date Ru	n:				
PID: 2,5-Dibromotoluen	е	N/A	12/6/2	010	N/A					
FID: 2,5-Dibromotoluen	е	% Solids:	Low Dile	ution:	High Dilution	n:				
		87.5	1		N/A					
		l								
Unadjusted Ranges	CAS	# Elution Range	<u>Units</u>	Result	RDL	<u>Q</u>				
C5- C8 Aliphatics (Unadj.)		N/A	ug/kg	ND <sup>A</sup>	6100					
C9- C10 Aromatics (Unadj	j.)	N/A	ug/kg	ND <sup>A</sup>	6100					
C9- C12 Aliphatics (Unadj.	.)	N/A	ug/kg	ND <sup>A</sup>	6100					
Adjusted Ranges										
C5- C8 Aliphatics		N/A	ug/kg	ND <sup>B</sup>	6100					
C9- C12 Aliphatics		N/A	ug/kg	ND <sup>□</sup>	6100					
Surrogate Recoveries				<u>A</u>	cceptance Range					
FID:2,5-Dibromotoluene			%	96	70-130 %					
PID:2,5-Dibromotoluene			%	89	70-130 %					
Footnotes										
A Hydrocarbon Range data exclude B Hydrocarbon Range data exclude concentration of Target Analytes	concentrations of any surrogate			5-C8 Aliphatic Hydrocarl	bons exclude the					
D Hydrocarbon Range data exclude conc of Target Analytes eluting in	concentrations of any surrogate			3-C12 aliphatic Hydrocar	bons exclude					
Z A 'J' qualifier indicates an estimat	ed value									

Were all QA/QC procedures REQUIRED by the VPH Method followed?	✓ Yes	No- Details Attatched
Were all performance/acceptance standards for required QA/QC procedures achieved?	✓ Yes	No- Details Attatched
Were any significant modifications made to the VPH method, as specified in Sect. 11.3?	✓ No	Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature / /s

Postition Laboration

**Laboratory Director** 

Printed Name Reza Tand Date 12/20/2010



MADEP VPH FORM										
Matrix	Aqueous		Soil	<b>✓</b>	Sediment		Other			
Containers	Satisfactory -	/	Broken		Leaking					
<b>Aqueous Preservatives</b>	N/A	•	pH <= 2		pH > 2					
Temperature	Received on	lce 🗌		Receive	d at 4 Deg. C		Other	<b>√</b>	Rec'd at 2.3	3 deg C.
Methanol	Methanol Co	vering	Soil. (m	L Methar	<u> 1:1 nol/g soil: 1:1</u>	+/- 2	5%)			
Method for Ranges:	MADEP VPH RE	V 1.1		ent ID: HA	_				M96225-2	
Method for Target Analytes:	MADEP VPH RE	V 1.1	Date Col	lected: 11/	/30/2010	D	ate Receiv	ed: 1	11/30/2010	
VPH Surrogate Standards			Date E	xtracted:	First D	ate Ru	n:		Last Date	Run:
PID: 2,5-Dibromotoluene	e		1	N/A	12/6	5/2010			12/07/1	10
FID: 2,5-Dibromotoluene	Э		% S	Solids:	Low D	Dilution	1:		High Dilu	tion:
			8	33.5		1			N/A	
Unadjusted Ranges		CAS #	<u>Elutio</u>	on Range	<u>Units</u>		Result		<u>RDL</u>	<u>Q</u>
C5- C8 Aliphatics (Unadj.)				N/A	ug/kg		ND <sup>A</sup>		7200	
C9- C10 Aromatics (Unadj	)			N/A	ug/kg		ND <sup>A</sup>		7200	
C9- C12 Aliphatics (Unadj.	)			N/A	ug/kg		ND <sup>A</sup>		7200	
Adjusted Ranges										
C5- C8 Aliphatics				N/A	ug/kg		ND <sup>B</sup>		7200	
C9- C12 Aliphatics				N/A	ug/kg		ND <sup>□</sup>		7200	
Surrogate Recoveries								Acc	eptance Rang	<u>je</u>
FID:2,5-Dibromotoluene					%		62 <sup>G</sup>		70-130 %	
PID:2,5-Dibromotoluene					%		56 <sup>G</sup>		70-130 %	
FID:2,5-Dibromotoluene					%		70		70-130 %	
PID:2,5-Dibromotoluene					%		66 <sup>G</sup>		70-130 %	
<u>Footnotes</u>										
A Hydrocarbon Range data exclude	-		•							
B Hydrocarbon Range data exclude concentration of Target Analytes 6		surrogate(s	s) and/or interi	nal standards	eluting in that range.	C5-C8	Aliphatic Hydr	ocarbor	ns exclude the	
D Hydrocarbon Range data exclude conc of Target Analytes eluting in	concentrations of any s					C9-C12	aliphatic Hydr	ocarbo	ns exclude	
G Outside control limits due to poss	ible matrix interference.	Confirmed	d by reanalysis	s.						
Z A 'J' qualifier indicates an estimate	ed value									

Were all QA/QC procedures REQUIRED by the VPH Method followed?	✓ Yes	No- Details Attatched
Were all performance/acceptance standards for required QA/QC procedures achieved?	☐ Yes 🗸	No- Details Attatched
Were any significant modifications made to the VPH method, as specified in Sect. 11.3?	✓ No	Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature

**Postition Laboratory Director** 

12/20/2010 Date **Printed Name Reza Tand** 

> ACCUTEST M96225

WIADER VEH FORWI											
Matrix		Aqueous		Soil	✓	Sediment		Other		]	
Containers		Satisfactor	y 🗸	Broken		Leaking					
Aqueous P	reservatives	N/A	✓	pH <= 2		pH > 2					
Temperatu	re	Received of	on Ice		Receive	d at 4 Deg. C		Other	✓	Rec'd at 2.3	3 deg C.
Methanol		Methanol (	Covering	Soil. (m	L Metha	nol/g soil: 1:1	<b>+/-</b>				
Method for Ra	anges:	MADEP VPH	REV 1.1	_	ent ID: HA	_		Lab	ID:	M96225-3	
Method for Ta	rget Analytes:	MADEP VPH	REV 1.1	Date Col	lected: 11	/30/2010		Date Receiv	/ed:	11/30/2010	
VPH Surrogat	e Standards			Date E	xtracted:	First D	ate R	un:		Last Date	Run:
PID: 2,	5-Dibromotoluene			1	N/A	12/6	5/2010	)		12/07/	10
FID: 2,	5-Dibromotoluene			% S	olids:	Low [	Dilutio	on:		High Dilu	ition:
				8	88.8		1			N/A	
Unadjusted R	anges		CAS	l # Flutio	on Range	Units		Result		RDL	Q
Onaajastea K	unges		<u> </u>	<u> </u>	on range	Omis		resure		KDL	<u>~</u>
C5- C8 AI	liphatics (Unadj.)				N/A	ug/kg		ND <sup>A</sup>		72000	
C9- C10 A	Aromatics (Unadj.)	ı			N/A	ug/kg		ND <sup>A</sup>		72000	
C9- C12 A	Aliphatics (Unadj.)				N/A	ug/kg		ND <sup>A</sup>		72000	
Adjusted Rang	ges										
C5- C8 AI	liphatics				N/A	ug/kg		ND <sup>B</sup>		72000	
C9- C12 A	Aliphatics				N/A	ug/kg		ND <sup>D</sup>		72000	
Surrogate Red	coveries								Ac	ceptance Rang	<u>je</u>
FID:2,5-D	ibromotoluene					%		64 <sup>G</sup>		70-130 %	
PID:2,5-D	ibromotoluene					%		58 <sup>G</sup>		70-130 %	
FID:2,5-D	ibromotoluene					%		72		70-130 %	
PID:2,5-D	ibromotoluene					%		63 <sup>G</sup>		70-130 %	
<u>Footnotes</u>											
-	n Range data exclude o			-							
concentration	n Range data exclude o n of Target Analytes el			s) and/or interi	nai standards	eluting in that range.	C5-C8	s Aliphatic Hydi	ocarb	ons exclude the	
	n Range data exclude o et Analytes eluting in t						C9-C1	2 aliphatic Hyd	rocarb	ons exclude	
G Outside cont	rol limits due to possil	ole matrix interfere	nce. Confirme	d by reanalysis	s.						
Z A 'J' qualifier	indicates an estimate	d value									

Were all QA/QC procedures REQUIRED by the VPH Method followed?
Were all performance/acceptance standards for required QA/QC procedures achieved?
Were any significant modifications made to the VPH method, as specified in Sect. 11.3?

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature / /

Postition

**Laboratory Director** 

Printed Name Reza Tand

Date

12/20/2010



## MADED VOL EODM

	<u>IVI</u>	ADER VEH I				
Matrix	Aqueous	Soil <b>✓</b>	Sediment	Other		
Containers	Satisfactory <b>✓</b>	Broken	Leaking			
Aqueous Preservatives	N/A ✓	pH <= 2	pH > 2			
Temperature	Received on Ice	Received	l at 4 Deg. C	Other [	Rec'd at 2.3	deg C.
Methanol	Methanol Covering	Soil. (mL Methan	ol/g soil: 1:1 -			
Method for Ranges:	MADEP VPH REV 1.1	Client ID: HA	_		: M96225-4	
Method for Target Analytes:	MADEP VPH REV 1.1	Date Collected: 11/3	30/2010	Date Received	: 11/30/2010	
VPH Surrogate Standards		Date Extracted:	First Dat	te Run:	Last Date	Run:
PID: 2,5-Dibromotoluene	e	N/A	12/6/2	2010	N/A	
FID: 2,5-Dibromotoluene	e	% Solids:	Low Dil	lution:	High Dilut	tion:
		83.8	1		N/A	
Unadjusted Ranges	CAS #	Elution Range	<u>Units</u>	Result	<u>RDL</u>	<u>Q</u>
C5- C8 Aliphatics (Unadj.)		N/A	ug/kg	ND <sup>A</sup>	7000	
C9- C10 Aromatics (Unadj	.)	N/A	ug/kg	ND <sup>A</sup>	7000	
C9- C12 Aliphatics (Unadj.	)	N/A	ug/kg	ND <sup>A</sup>	7000	
Adjusted Ranges						
C5- C8 Aliphatics		N/A	ug/kg	ND <sup>B</sup>	7000	
C9- C12 Aliphatics		N/A	ug/kg	ND <sup>□</sup>	7000	
Surrogate Recoveries				<u> </u>	Acceptance Rang	<u>ıe</u>
FID:2,5-Dibromotoluene			%	103	70-130 %	
PID:2,5-Dibromotoluene			%	95	70-130 %	
<u>Footnotes</u>						
_	concentrations of any surrogate(s					
B Hydrocarbon Range data exclude concentration of Target Analytes 6	concentrations of any surrogate(seluting in that range.	s) and/or internal standards e	luting in that range. C	-5-68 Aliphatic Hydrocal	roons exclude the	
D Hydrocarbon Range data exclude conc of Target Analytes eluting in	concentrations of any surrogate(stat range AND concentration of Concentrat			9-C12 aliphatic Hydroca	rbons exclude	
Z A 'J' qualifier indicates an estimate	ed value					

Were all QA/QC procedures REQUIRED by the VPH Method followed?	✓ Yes □	No- Details Attatched
Were all performance/acceptance standards for required QA/QC procedures achieved?	✓ Yes	No- Details Attatched
Were any significant modifications made to the VPH method, as specified in Sect. 11.3?	✓ No	Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

**Postition** Signature

**Laboratory Director** 

12/20/2010 Date **Printed Name Reza Tand** 



## MADED VOL EODM

WIADER VEH FORWI									
Matrix	Aqueous	Soil <b>✓</b>	Sediment	☐ Other					
Containers	Satisfactory <b>✓</b>	Broken	Leaking						
<b>Aqueous Preservatives</b>	N/A ✓	pH <= 2	pH > 2						
Temperature	Received on Ice	Received	l at 4 Deg. C	☐ Other	✓ Rec'd at 2.3 of	deg C.			
Methanol	Methanol Covering	Soil. (mL Methan	ol/g soil: 1:1	+/- 25%)					
Method for Ranges:	MADEP VPH REV 1.1	Client ID: HA	_		: M96225-5				
Method for Target Analytes:	MADEP VPH REV 1.1	Date Collected: 11/3	30/2010	Date Received	1: 11/30/2010				
VPH Surrogate Standards		Date Extracted:	First Da	te Run:	Last Date R	tun:			
PID: 2,5-Dibromotoluene	е	N/A	12/6/	2010	N/A				
FID: 2,5-Dibromotoluene	е	% Solids:	Low Di	lution:	High Dilution:				
		87.4	1	I	N/A				
Unadjusted Ranges	CAS :	Elution Range	<u>Units</u>	Result	<u>RDL</u>	<u>Q</u>			
C5- C8 Aliphatics (Unadj.)		N/A	ug/kg	ND <sup>A</sup>	6300				
C9- C10 Aromatics (Unadj	.)	N/A	ug/kg	ND <sup>A</sup>	6300				
C9- C12 Aliphatics (Unadj.	)	N/A	ug/kg	ND <sup>A</sup>	6300				
Adjusted Ranges									
C5- C8 Aliphatics		N/A	ug/kg	ND <sup>B</sup>	6300				
C9- C12 Aliphatics		N/A	ug/kg	ND <sup>D</sup>	6300				
Surrogate Recoveries				<u>.</u>	Acceptance Range	<u>)</u>			
FID:2,5-Dibromotoluene			%	92	70-130 %				
PID:2,5-Dibromotoluene			%	84	70-130 %				
<u>Footnotes</u>									
A Hydrocarbon Range data exclude B Hydrocarbon Range data exclude concentration of Target Analytes e	concentrations of any surrogate(			C5-C8 Aliphatic Hydroca	irbons exclude the				
D Hydrocarbon Range data exclude conc of Target Analytes eluting in	concentrations of any surrogate(			C9-C12 aliphatic Hydroca	arbons exclude				
Z A 'J' qualifier indicates an estimate	ed value								

Were all QA/QC procedures REQUIRED by the VPH Method followed?	✓ Yes □	No- Details Attatched
Were all performance/acceptance standards for required QA/QC procedures achieved?	✓ Yes 🗌	No- Details Attatched
Were any significant modifications made to the VPH method, as specified in Sect. 11.3?	✓ No	Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

**Postition** Signature

**Laboratory Director** 

12/20/2010 Date **Printed Name Reza Tand** 



WIADLE VEHI ONW										
Matrix	Aqueous	Soil 🗸	Sediment	Other						
Containers	Satisfactory ✓	Broken _	Leaking							
Aqueous Preservatives	N/A ✓	pH <= 2	pH > 2							
Temperature	Received on Ice	Received	at 4 Deg. C	Other •	Rec'd at 2.3 de	g C.				
Methanol	Methanol Covering	Soil. (mL Methan	ol/g soil: 1:1 +	·/- 25%)						
Method for Ranges:	MADEP VPH REV 1.1	Client ID: HA1	08_4-8'	Lab ID:	M96225-6					
Method for Target Analytes:	MADEP VPH REV 1.1	Date Collected: 11/3	30/2010	Date Received:	11/30/2010					
VPH Surrogate Standards		Date Extracted:	First Date	e Run:	Last Date Run:					
PID: 2,5-Dibromotoluene	Э	N/A	12/6/2		N/A					
FID: 2,5-Dibromotoluene	Э	% Solids:	Low Dil	ution:	High Dilution	n:				
		83.3	1		N/A					
Unadjusted Ranges	CAS	ا <u>#      Elution Range</u>	<u>Units</u>	<u>Result</u>	<u>RDL</u>	<u>Q</u>				
C5- C8 Aliphatics (Unadj.)		N/A	ug/kg	ND <sup>A</sup>	8100					
C9- C10 Aromatics (Unadj.	.)	N/A	ug/kg	ND <sup>A</sup>	8100					
C9- C12 Aliphatics (Unadj.	)	N/A	ug/kg	ND <sup>A</sup>	8100					
Adjusted Ranges										
C5- C8 Aliphatics		N/A	ug/kg	ND <sup>B</sup>	8100					
C9- C12 Aliphatics		N/A	ug/kg	ND <sup>□</sup>	8100					
Surrogate Recoveries				<u>A</u>	cceptance Range					
FID:2,5-Dibromotoluene			%	100	70-130 %					
PID:2,5-Dibromotoluene			%	93	70-130 %					
<u>Footnotes</u>										
A Hydrocarbon Range data exclude		•	-							
B Hydrocarbon Range data exclude concentration of Target Analytes e		s) and/or internal standards e	luting in that range. C	5-C8 Aliphatic Hydrocart	ons exclude the					
D Hydrocarbon Range data exclude conc of Target Analytes eluting in	concentrations of any surrogate(			9-C12 aliphatic Hydrocar	bons exclude					
Z A 'J' qualifier indicates an estimate	ed value									

Were all QA/QC procedures REQUIRED by the VPH Method followed?

Were all performance/acceptance standards for required QA/QC procedures achieved?

Were any significant modifications made to the VPH method, as specified in Sect. 11.3?

No- Details Attatched
No- Details Attatched
Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature / Signature

Postition

**Laboratory Director** 

**Printed Name** 

**Reza Tand** 

Date

12/20/2010



MADEL VITTORIN									
Matrix	Aqueous	Soil <b>✓</b>	Sediment	Other					
Containers	Satisfactory <	Broken	Leaking						
Aqueous Preservatives	N/A ✓	pH <= 2	pH > 2						
Temperature	Received on Ice	Received	l at 4 Deg. C	Other	✓ Rec'd at 2.3 deg C.				
Methanol	Methanol Covering	Soil. (mL Methan	ol/g soil: 1:1 +	·/- 25%)					
Method for Ranges:	MADEP VPH REV 1.1	Client ID: HA	107_0-4'	Lab ID	: M96225-7				
Method for Target Analytes:	MADEP VPH REV 1.1	Date Collected: 11/3	30/2010	Date Received	I: 11/30/2010				
VPH Surrogate Standards		Date Extracted:	First Dat	e Run:	Last Date Run:				
PID: 2,5-Dibromotoluene	е	N/A	12/7/2		N/A				
FID: 2,5-Dibromotoluene	е	% Solids:	Low Dil	ution:	High Dilution:				
,		88.4	1		N/A				
Unadjusted Ranges	CAS	# Elution Range	<u>Units</u>	Result	RDL Q				
C5- C8 Aliphatics (Unadj.)		N/A	ug/kg	ND <sup>A</sup>	6400				
C9- C10 Aromatics (Unadj.	.)	N/A	ug/kg	ND <sup>A</sup>	6400				
C9- C12 Aliphatics (Unadj.	)	N/A	ug/kg	ND <sup>A</sup>	6400				
Adjusted Ranges									
C5- C8 Aliphatics		N/A	ug/kg	ND <sup>B</sup>	6400				
C9- C12 Aliphatics		N/A	ug/kg	ND D	6400				
Surrogate Recoveries				<u> </u>	Acceptance Range				
FID:2,5-Dibromotoluene			%	77	70-130 %				
PID:2,5-Dibromotoluene			%	72	70-130 %				
Footnotes									
A Hydrocarbon Range data exclude									
B Hydrocarbon Range data exclude concentration of Target Analytes e		(s) and/or internal standards e	luting in that range. C	5-C8 Aliphatic Hydroca	rbons exclude the				
D Hydrocarbon Range data exclude conc of Target Analytes eluting in	concentrations of any surrogate			9-C12 aliphatic Hydroca	arbons exclude				
Z A 'J' qualifier indicates an estimate	ed value								

Were all QA/QC procedures REQUIRED by the VPH Method followed?	✓ Yes	No- Details Attatched
		No- Details Attatched
Were any significant modifications made to the VPH method, as specified in Sect. 11.3?	✓ No	Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

**Postition Laboratory Director** Signature

12/20/2010 Date **Printed Name Reza Tand** 

> 112 of 214 ACCUTEST M96225

		TOEL VIIII			
Matrix	Aqueous	Soil <b>✓</b>	Sediment	☐ Other ☐	
Containers	Satisfactory ✓	Broken	Leaking		
Aqueous Preservatives	N/A ✓	pH <= 2 □	pH > 2		
Temperature	Received on Ice	Received	at 4 Deg. C	Other	Rec'd at 2.3 deg C.
Methanol	Methanol Covering	Soil. (mL Methan	ol/g soil: 1:1 -	+/- 25%)	
Method for Ranges:	MADEP VPH REV 1.1	Client ID: HA1	_	Lab ID:	M96225-8
Method for Target Analytes:	MADEP VPH REV 1.1	Date Collected: 11/3	30/2010	Date Received:	11/30/2010
VPH Surrogate Standards		Date Extracted:	First Dat	te Run:	Last Date Run:
PID: 2,5-Dibromotoluene	Э	N/A	12/7/2	2010	N/A
FID: 2,5-Dibromotoluene	Э	% Solids:	Low Dil	lution:	High Dilution:
		73.4	1		N/A
Unadjusted Ranges	CAS :	# Elution Range	Units	Result	RDL Q
Olladjusted Kaliges	CAS	<u>Liution Kange</u>	Ollits	Kesuit	<u>RDL</u> <u>Q</u>
C5- C8 Aliphatics (Unadj.)		N/A	ug/kg	ND <sup>A</sup>	8700
C9- C10 Aromatics (Unadj.	.)	N/A	ug/kg	ND <sup>A</sup>	8700
C9- C12 Aliphatics (Unadj.	)	N/A	ug/kg	ND <sup>A</sup>	8700
Adjusted Ranges					
C5- C8 Aliphatics		N/A	ug/kg	ND <sup>B</sup>	8700
C9- C12 Aliphatics		N/A	ug/kg	ND <sup>□</sup>	8700
Surrogate Recoveries				<u>A</u> c	cceptance Range
FID:2,5-Dibromotoluene			%	121	70-130 %
PID:2,5-Dibromotoluene			%	110	70-130 %
Footnotes					
A Hydrocarbon Range data exclude					
B Hydrocarbon Range data exclude concentration of Target Analytes e		s) and/or internal standards e	luting in that range. C	5-C8 Aliphatic Hydrocarb	ons exclude the
D Hydrocarbon Range data exclude conc of Target Analytes eluting in	concentrations of any surrogate(			9-C12 aliphatic Hydrocart	bons exclude
7 A ' I' qualifier indicates an estimate	ad value				

Were all QA/QC procedures REQUIRED by the VPH Method followed?	✓ Yes □	No- Details Attatched
Were all performance/acceptance standards for required QA/QC procedures achieved?	✓ Yes	No- Details Attatched
Were any significant modifications made to the VPH method, as specified in Sect. 11.3?	✓ No	Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature Po

Postition <u>Laboratory Director</u>

Printed Name Reza Tand Date 12/20/2010



Haley & Aldrich

Job No: M96225

Sample Number	Method	Analyzed	Ву	Prepped	Ву	Test Codes
M96225-1	Collected: 30-NOV-10	08:00 By: MD	Pacai	ved: 30-NOV	10 B	g- IR
HA110_0-4		08.00 By. MD	Recei	veu. 50-110 v	-10 B	y. JD
M96225-1	SM21 2540 B MOD.	02-DEC-10	HS			% SOL
M96225-1	ASTM D1498-76M	03-DEC-10	MC			EH
M96225-1	SW846 CHAP7	03-DEC-10	MA			CORR
M96225-1		03-DEC-10 16:23	PY	03-DEC-10	EM	HG
M96225-1			JD	02-DEC-10		BMAEPHR
M96225-1	SW846 CHAP7	06-DEC-10	BF	06-DEC-10		CREAC, SREAC
M96225-1		06-DEC-10	BF	06-DEC-10		CREAC, SREAC
M96225-1		06-DEC-10	BF	00 220 10	21	IGN
M96225-1	SW846 6010C	06-DEC-10 14:13		01-DEC-10	EM	AG,AS,BA,BE,CD,CR,NI,PB,S SE,TL,V,ZN
M96225-1	MADEP VPH REV 1.	106-DEC-10 20:21	AP			VMAVPHR
M96225-1	SW846 8270C	07-DEC-10 01:48	PR	03-DEC-10	FC	AB8270MCP
M96225-1	SW846 8260B	07-DEC-10 13:59	GK			V8260MCP
M96225-1	SW846 8270C	07-DEC-10 14:17	PR	03-DEC-10	FC	AB8270MCP
M96225-2 HA110_4-8	Collected: 30-NOV-10	08:35 By: MD	Recei	ved: 30-NOV	-10 B	y: JB
M96225-2	SM21 2540 B MOD.	02-DEC-10	HS			%SOL
	ASTM D1498-76M	03-DEC-10	MC			EH
	SW846 CHAP7	03-DEC-10	MA			CORR
	SW846 7471A	03-DEC-10 16:26	PY	03-DEC-10	EM	HG
M96225-2	MADEP EPH REV 1.1	1 05-DEC-10 00:03	JD	02-DEC-10	MS	BMAEPHR
	SW846 CHAP7	06-DEC-10	BF	06-DEC-10		CREAC, SREAC
	SW846 1020	06-DEC-10	BF			IGN
M96225-2	SW846 CHAP7	06-DEC-10	BF	06-DEC-10	BF	CREAC, SREAC
M96225-2	SW846 6010C	06-DEC-10 14:17	DA	01-DEC-10		AG, AS, BA, BE, CD, CR, NI, PB, S
						SE,TL,V,ZN
M96225-2	MADEP VPH REV 1.	106-DEC-10 21:01	AP			VMAVPHR
	SW846 8270C	07-DEC-10 02:16	PR	03-DEC-10	FC	AB8270MCP
M96225-2	SW846 8260B	07-DEC-10 14:26	GK			V8260MCP
M96225-2	MADEP VPH REV 1.	1 07-DEC-10 20:25	WS			VMAVPHR
	Collected: 30-NOV-10	10:00 By: MD	Recei	ved: 30-NOV	-10 B	y: JB
HA109_0-4	P					
M96225-3	ASTM D1498-76M	03-DEC-10	MC			ЕН



Haley & Aldrich

Job No: M96225

Sample						
Number	Method	Analyzed	By	Prepped	Ву	Test Codes
M96225-3	SM21 2540 B MOD.	03-DEC-10	HS			% SOL
M96225-3	SW846 CHAP7	03-DEC-10	MA			CORR
M96225-3	SW846 7471A	03-DEC-10 16:32	PY	03-DEC-10	EM	HG
M96225-3	MADEP EPH REV 1.1	05-DEC-10 00:39	JD	02-DEC-10	MS	BMAEPHR
M96225-3	SW846 CHAP7	06-DEC-10	BF	06-DEC-10	BF	CREAC,SREAC
	SW846 CHAP7	06-DEC-10	BF	06-DEC-10	BF	CREAC,SREAC
M96225-3		06-DEC-10	BF			IGN
M96225-3	SW846 6010C	06-DEC-10 14:21	DA	01-DEC-10	EM	AG, AS, BA, BE, CD, CR, NI, PB, SI SE, TL, V, ZN
M96225-3	MADEP VPH REV 1.1	1 06-DEC-10 21:40	AP			VMAVPHR
M96225-3	SW846 8270C	07-DEC-10 02:45	PR	03-DEC-10	FC	AB8270MCP
	MADEP VPH REV 1.1		WS			VMAVPHR
M96225-3	SW846 8260B	07-DEC-10 23:04	GK			V8260MCP
M96225-4 HA109_8-1	Collected: 30-NOV-10	10:55 By: MD	Recei	ved: 30-NOV	-10 By	7: JB
1111107_0-1	L					
M96225-4	ASTM D1498-76M	03-DEC-10	MC			ЕН
M96225-4	SM21 2540 B MOD.	03-DEC-10	HS			% SOL
	SW846 CHAP7	03-DEC-10	MA			CORR
	MADEP EPH REV 1.1	05-DEC-10 01:16	JD	02-DEC-10	MS	BMAEPHR
M96225-4	SW846 CHAP7	06-DEC-10	BF	06-DEC-10	BF	CREAC, SREAC
	SW846 CHAP7	06-DEC-10	BF	06-DEC-10	BF	CREAC, SREAC
M96225-4	SW846 1020	06-DEC-10	BF			IGN
M96225-4	SW846 6010C	06-DEC-10 14:56	DA	01-DEC-10	EM	AG, AS, BA, BE, CD, CR, NI, PB, S. SE, TL, V, ZN
M96225-4	MADEP VPH REV 1.1	1 06-DEC-10 22:20	AP			VMAVPHR
M96225-4	SW846 8270C	07-DEC-10 03:14	PR	03-DEC-10	FC	AB8270MCP
M96225-4	SW846 8260B	07-DEC-10 14:53	GK			V8260MCP
M96225-4	SW846 7471A	08-DEC-10 13:59	PY	07-DEC-10	EM	HG
M96225-5		12:30 By: MD	Recei	ved: 30-NOV	-10 By	v: JB
HA108_0-4						
M96225-5	ASTM D1498-76M	03-DEC-10	MC			ЕН
M96225-5		03-DEC-10 03-DEC-10	HS			% SOL
M96225-5		03-DEC-10 03-DEC-10	нs MA			CORR
	MADEP EPH REV 1.1		JD	02-DEC-10	MC	BMAEPHR
M96225-5 M96225-5	SW846 CHAP7 SW846 CHAP7	06-DEC-10 06-DEC-10	BF BF	06-DEC-10 06-DEC-10		CREAC,SREAC CREAC,SREAC
10190223-3	SW 040 CHAP/	00-DEC-10	DГ	00-DEC-10	DF	CREAC, SREAC



Page 2 of 5

Haley & Aldrich

Job No: M96225

Sample Number	Method	Analyzed	Ву	Prepped	Ву	Test Codes
M96225-5	SW846 1020	06-DEC-10	BF			IGN
M96225-5	SW846 6010C	06-DEC-10 14:52	DA	01-DEC-10	EM	AG, AS, BA, BE, CD, CR, NI, PB, SI
M06225 5	MADEP VPH REV 1.1	1.06 DEC 10.22:00	AP			SE,TL,V,ZN VMAVPHR
	SW846 8270C	07-DEC-10 03:42		03-DEC-10	FC	AB8270MCP
	SW846 8260B	07-DEC-10 05:42 07-DEC-10 15:20	GK	03-DEC-10	10	V8260MCP
M96225-5		08-DEC-10 13:14	_	07-DEC-10	EM	HG
M96225-6 HA108_4-8		13:05 By: MD	Receiv	ved: 30-NOV	-10 By	7: JB
M96225-6	ASTM D1498-76M	03-DEC-10	MC			ЕН
M96225-6	SM21 2540 B MOD.	03-DEC-10 03-DEC-10	HS			%SOL
	SW846 CHAP7	03-DEC-10	MA			CORR
	MADEP EPH REV 1.1		JD	02-DEC-10	MS	BMAEPHR
M96225-6	SW846 CHAP7	06-DEC-10	BF	06-DEC-10	BF	CREAC, SREAC
M96225-6	SW846 CHAP7	06-DEC-10	BF	06-DEC-10	BF	CREAC,SREAC
M96225-6	SW846 1020	06-DEC-10	BF			IGN
M96225-6	SW846 6010C	06-DEC-10 14:41	DA	01-DEC-10	EM	AG, AS, BA, BE, CD, CR, NI, PB, SI SE, TL, V, ZN
M96225-6	MADEP VPH REV 1.1	106-DEC-10 23:40	AP			VMAVPHR
M96225-6	SW846 8270C	07-DEC-10 04:11	PR	03-DEC-10	FC	AB8270MCP
M96225-6	SW846 8260B	07-DEC-10 15:47	GK			V8260MCP
M96225-6	SW846 7471A	08-DEC-10 13:18	PY	07-DEC-10	EM	HG
M96225-7 HA107_0-4	Collected: 30-NOV-10	14:10 By: MD	Recei	ved: 30-NOV	-10 By	7: JB
M96225-7	ASTM D1498-76M	03-DEC-10	MC			ЕН
M96225-7		03-DEC-10 03-DEC-10	HS			%SOL
M96225-7		03-DEC-10	MA			CORR
M96225-7			JD	02-DEC-10	MS	BMAEPHR
M96225-7		06-DEC-10	BF	06-DEC-10		CREAC, SREAC
M96225-7		06-DEC-10	BF	06-DEC-10		CREAC, SREAC
M96225-7	SW846 1020	06-DEC-10	BF			IGN
M96225-7	SW846 6010C	06-DEC-10 14:48	DA	01-DEC-10	EM	AG, AS, BA, BE, CD, CR, NI, PB, SI SE, TL, V, ZN
M96225-7	SW846 8270C	07-DEC-10 04:40	PR	03-DEC-10	FC	AB8270MCP
M96225-7	SW846 8260B	07-DEC-10 16:14	GK			V8260MCP
M96225-7	MADEP VPH REV 1.1	107-DEC-10 21:05	WS			VMAVPHR



Haley & Aldrich

Job No: M96225

110jeet 110. 00310 302								
Method	Analyzed	Ву	Prepped	Ву	Test Codes			
SW846 7471A	08-DEC-10 14:02	PY	07-DEC-10	EM	HG			
Collected: 30-NOV-10 2'	15:05 By: MD	Receiv	ved: 30-NOV	-10 By	r: JB			
SM21 2540 B MOD.	02-DEC-10	HS			%SOL			
SW846 6010C	02-DEC-10 21:44	DA	02-DEC-10	EM	AG, AS, BA, BE, CD, CR, NI, PB, S SE, TL, V, ZN			
ASTM D1498-76M	03-DEC-10	MC			EH			
SW846 CHAP7	03-DEC-10	MA			CORR			
	05-DEC-10 03:41	JD	02-DEC-10	MS	BMAEPHR			
SW846 CHAP7	06-DEC-10	BF	06-DEC-10	BF	CREAC, SREAC			
SW846 CHAP7	06-DEC-10	BF	06-DEC-10	BF	CREAC, SREAC			
SW846 1020	06-DEC-10	BF			IGN			
MADEP VPH REV 1.	1 07-DEC-10 00:59	AP			VMAVPHR			
SW846 8270C	07-DEC-10 05:08	PR	03-DEC-10	FC	AB8270MCP			
SW846 8260B	07-DEC-10 16:40	GK			V8260MCP			
SW846 7471A	08-DEC-10 13:57	PY	07-DEC-10	EM	HG			
Collected: 30-NOV-10	08:00 By: MD	Receiv	ed: 30-NOV	-10 By	r: JB			
SW846 6010C	09-DEC-10 23:49	DA	09-DEC-10	EM	ЕРВ			
Collected: 30-NOV-10	08:35 By: MD	Receiv	ved: 30-NOV	-10 By	у: JB			
SW846 7470A	09-DEC-10 13:56	MA	09-DEC-10	MA	EHG			
SW846 6010C					EPB			
Collected: 30-NOV-10	10:00 By: MD	Receiv	ved: 30-NOV	-10 By	7: JB			
SW846 6010C	09-DEC-10 23:58	DA	09-DEC-10	EM	EPB			
Collected: 30-NOV-10 2'	10:55 By: MD	Receiv	ved: 30-NOV	-10 By	r: JB			
SW846 7470A	09-DEC-10 13:58	MA	09-DEC-10	МА	EHG			
	SW846 7471A  Collected: 30-NOV-10 2'  SM21 2540 B MOD. SW846 6010C  ASTM D1498-76M SW846 CHAP7 MADEP EPH REV 1.1 SW846 CHAP7 SW846 CHAP7 SW846 1020 MADEP VPH REV 1.2 SW846 8270C SW846 8260B SW846 7471A  Collected: 30-NOV-10 A SW846 6010C   SW846 7471A 08-DEC-10 14:02  Collected: 30-NOV-10 15:05 By: MD 2'  SM21 2540 B MOD. 02-DEC-10 SW846 6010C 02-DEC-10 21:44  ASTM D1498-76M 03-DEC-10 SW846 CHAP7 03-DEC-10 MADEP EPH REV 1.1 05-DEC-10 03:41 SW846 CHAP7 06-DEC-10 SW846 1020 06-DEC-10 MADEP VPH REV 1.1 07-DEC-10 00:59 SW846 8270C 07-DEC-10 05:08 SW846 8260B 07-DEC-10 16:40 SW846 7471A 08-DEC-10 13:57  Collected: 30-NOV-10 08:00 By: MD  SW846 6010C 09-DEC-10 23:49  Collected: 30-NOV-10 10:00 By: MD  SW846 6010C 09-DEC-10 23:54  Collected: 30-NOV-10 10:00 By: MD	SW846 7471A 08-DEC-10 14:02 PY  Collected: 30-NOV-10 15:05 By: MD  Received: 30-NOV-10 15:05 By: MD  SW846 6010C 02-DEC-10 HS SW846 6010C 02-DEC-10 21:44 DA  ASTM D1498-76M 03-DEC-10 MC SW846 CHAP7 03-DEC-10 03:41 JD SW846 CHAP7 06-DEC-10 BF SW846 CHAP7 06-DEC-10 BF SW846 1020 06-DEC-10 BF SW846 1020 06-DEC-10 BF SW846 8270C 07-DEC-10 00:59 AP SW846 8260B 07-DEC-10 16:40 GK SW846 7471A 08-DEC-10 13:57 PY  Collected: 30-NOV-10 08:00 By: MD  Received: 30-NOV-10 08:35 By: MD  Received: 30-NOV-10 08:35 By: MD  Received: 30-NOV-10 10:00 By: MD  Collected: 30-NOV-10 10:00 By: MD  Received: 30-NOV-10 10:55 By: MD  Received: 30-NOV-10 10:55 By: MD  Received: 30-NOV-10 10:55 By: MD  Received: 30-NOV-10 10:55 By: MD  Received: 30-NOV-10 10:55 By: MD  Received: 30-NOV-10 10:55 By: MD  Received: 30-NOV-10 10:55 By: MD  Received: 30-NOV-10 10:55 By: MD  Received: 30-NOV-10 10:55 By: MD  Received: 30-NOV-10 10:55 By: MD  Received: 30-NOV-10 10:55 By: MD  Received: 30-NOV-10 10:55 By: MD  Received: 30-NOV-10 10:55 By: MD  Received: 30-NOV-10 10:55 By: MD  Received: 30-NOV-10 10:55 By: MD  Received: 30-NOV-10 10:55 By: MD	SW846 7471A 08-DEC-10 14:02 PY 07-DEC-10  Collected: 30-NOV-10 15:05 By: MD Received: 30-NOV 2'  SM21 2540 B MOD. 02-DEC-10 HS SW846 6010C 02-DEC-10 21:44 DA 02-DEC-10  ASTM D1498-76M 03-DEC-10 MC SW846 CHAP7 03-DEC-10 MA MADEP EPH REV 1.1 05-DEC-10 03:41 JD 02-DEC-10 SW846 CHAP7 06-DEC-10 BF 06-DEC-10 SW846 CHAP7 06-DEC-10 BF 06-DEC-10 SW846 1020 06-DEC-10 BF 06-DEC-10 SW846 8270C 07-DEC-10 00:59 AP SW846 8270C 07-DEC-10 05:08 PR 03-DEC-10 SW846 8260B 07-DEC-10 16:40 GK SW846 7471A 08-DEC-10 13:57 PY 07-DEC-10  Collected: 30-NOV-10 08:00 By: MD Received: 30-NOV  A SW846 7470A 09-DEC-10 23:49 DA 09-DEC-10 Collected: 30-NOV-10 08:35 By: MD Received: 30-NOV  Collected: 30-NOV-10 10:00 By: MD Received: 30-NOV  Collected: 30-NOV-10 10:00 By: MD Received: 30-NOV  Collected: 30-NOV-10 10:00 By: MD Received: 30-NOV  Collected: 30-NOV-10 10:55 By: MD Received: 30-NOV  Collected: 30-NOV-10 10:55 By: MD Received: 30-NOV  Collected: 30-NOV-10 10:55 By: MD Received: 30-NOV  Collected: 30-NOV-10 10:55 By: MD Received: 30-NOV  Collected: 30-NOV-10 10:55 By: MD Received: 30-NOV  Collected: 30-NOV-10 10:55 By: MD Received: 30-NOV  Collected: 30-NOV-10 10:55 By: MD Received: 30-NOV  Collected: 30-NOV-10 10:55 By: MD Received: 30-NOV	SW846 7471A 08-DEC-10 14:02 PY 07-DEC-10 EM  Collected: 30-NOV-10 15:05 By: MD Received: 30-NOV-10 By 2'  SM21 2540 B MOD. 02-DEC-10 HS SW846 6010C 02-DEC-10 21:44 DA 02-DEC-10 EM  ASTM D1498-76M 03-DEC-10 MC SW846 CHAP7 03-DEC-10 MA MADEP EPH REV 1.1 05-DEC-10 03:41 JD 02-DEC-10 MS SW846 CHAP7 06-DEC-10 BF 06-DEC-10 BF SW846 CHAP7 06-DEC-10 BF 06-DEC-10 BF SW846 1020 06-DEC-10 BF 06-DEC-10 BF MADEP VPH REV 1.107-DEC-10 00:59 AP SW846 8270C 07-DEC-10 05:08 PR 03-DEC-10 FC SW846 8260B 07-DEC-10 16:40 GK SW846 7471A 08-DEC-10 13:57 PY 07-DEC-10 EM  Collected: 30-NOV-10 08:00 By: MD Received: 30-NOV-10 By  A SW846 6010C 09-DEC-10 13:56 MA 09-DEC-10 EM  Collected: 30-NOV-10 10:00 By: MD Received: 30-NOV-10 By  Collected: 30-NOV-10 10:55 By: MD Received: 30-NOV-10 By  Collected: 30-NOV-10 10:55 By: MD Received: 30-NOV-10 By  Collected: 30-NOV-10 10:55 By: MD Received: 30-NOV-10 By				



Haley & Aldrich

Job No: M96225

Sample Number	Method	Analyzed	Ву	Prepped	Ву	Test Codes
M96225-5A	Collected: 30-NOV-10	12:30 By: MD	Receiv	red: 30-NOV	-10 By	: ЈВ
HA108_0-4		•			J	
M96225-5A	SW846 6010C	10-DEC-10 00:07	DA	09-DEC-10	EM	ЕРВ
M96225-6A HA108_4-8	Collected: 30-NOV-10	13:05 By: MD	Receiv	red: 30-NOV	-10 By	: ЈВ
M96225-6A	SW846 6010C	10-DEC-10 00:21	DA	09-DEC-10	EM	ЕРВ
M96225-7A HA107_0-4	Collected: 30-NOV-10	14:10 By: MD	Receiv	red: 30-NOV	-10 By	: ЈВ
M96225-7A	SW846 6010C	10-DEC-10 00:25	DA	09-DEC-10	EM	ЕРВ
M96225-8A HA107_8-1	Collected: 30-NOV-10 2'	15:05 By: MD	Receiv	red: 30-NOV	-10 By	: JB
M96225-8A	SW846 6010C	07-DEC-10 21:15	DA	07-DEC-10	EM	EPB



## GC/MS Volatiles

## QC Data Summaries

## Includes the following where applicable:

- · Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries



## **Method Blank Summary**

Job Number: M96225

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA **Project:** 

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSR663-MB	R18611A.D	1	12/07/10	GK	n/a	n/a	MSR663

The QC reported here applies to the following samples:

CAS No.	Compound	Result	RL	Units Q
67-64-1	Acetone	ND	250	ug/kg
71-43-2	Benzene	ND	25	ug/kg
108-86-1	Bromobenzene	ND	250	ug/kg
74-97-5	Bromochloromethane	ND	250	ug/kg
75-27-4	Bromodichloromethane	ND	100	ug/kg
75-25-2	Bromoform	ND	100	ug/kg
74-83-9	Bromomethane	ND	100	ug/kg
78-93-3	2-Butanone (MEK)	ND	250	ug/kg
104-51-8	n-Butylbenzene	ND	250	ug/kg
135-98-8	sec-Butylbenzene	ND	250	ug/kg
98-06-6	tert-Butylbenzene	ND	250	ug/kg
75-15-0	Carbon disulfide	ND	250	ug/kg
56-23-5	Carbon tetrachloride	ND	100	ug/kg
108-90-7	Chlorobenzene	ND	100	ug/kg
75-00-3	Chloroethane	ND	250	ug/kg
67-66-3	Chloroform	ND	100	ug/kg
74-87-3	Chloromethane	ND	250	ug/kg
95-49-8	o-Chlorotoluene	ND	250	ug/kg
106-43-4	p-Chlorotoluene	ND	250	ug/kg
108-20-3	Di-Isopropyl ether	ND	100	ug/kg
96-12-8	1,2-Dibromo-3-chloropropane	ND	250	ug/kg
124-48-1	Dibromochloromethane	ND	100	ug/kg
106-93-4	1,2-Dibromoethane	ND	100	ug/kg
95-50-1	1,2-Dichlorobenzene	ND	100	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	100	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	100	ug/kg
75-71-8	Dichlorodifluoromethane	ND	100	ug/kg
75-34-3	1,1-Dichloroethane	ND	100	ug/kg
107-06-2	1,2-Dichloroethane	ND	100	ug/kg
75-35-4	1,1-Dichloroethene	ND	100	ug/kg
156-59-2	cis-1,2-Dichloroethene	ND	100	ug/kg
156-60-5	trans-1,2-Dichloroethene	ND	100	ug/kg
78-87-5	1,2-Dichloropropane	ND	100	ug/kg
142-28-9	1,3-Dichloropropane	ND	250	ug/kg
594-20-7	2,2-Dichloropropane	ND	250	ug/kg
563-58-6	1,1-Dichloropropene	ND	250	ug/kg



## **Method Blank Summary**

Job Number: M96225

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	<b>Prep Date</b>	Prep Batch	<b>Analytical Batch</b>
MSR663-MB	R18611A.D	1	12/07/10	GK	n/a	n/a	MSR663

#### The QC reported here applies to the following samples:

CAS No. Com	pound	Result	RL	Units	Q
10061-01-5 cis-1,	3-Dichloropropene	ND	100	ug/kg	
10061-02-6 trans-	-1,3-Dichloropropene	ND	100	ug/kg	
123-91-1 1,4-E	Dioxane	ND	1300	ug/kg	
60-29-7 Ethyl	Ether	ND	250	ug/kg	
100-41-4 Ethyl	benzene	ND	100	ug/kg	
87-68-3 Hexa	chlorobutadiene	ND	250	ug/kg	
591-78-6 2-He	xanone	ND	250	ug/kg	
98-82-8 Isopr	opylbenzene	ND	250	ug/kg	
	propyltoluene	ND	250	ug/kg	
1634-04-4 Meth	yl Tert Butyl Ether	ND	100	ug/kg	
	thyl-2-pentanone (MIBK)	ND	250	ug/kg	
	ylene bromide	ND	250	ug/kg	
	ylene chloride	ND	100	ug/kg	
	thalene	ND	250	ug/kg	
	pylbenzene	ND	250	ug/kg	
100-42-5 Styre		ND	250	ug/kg	
	Amyl Methyl Ether	ND	250	ug/kg	
	Butyl Ethyl Ether	ND	100	ug/kg	
	,2-Tetrachloroethane	ND	250	ug/kg	
79-34-5 1,1,2	,2-Tetrachloroethane	ND	100	ug/kg	
	chloroethene	ND	100	ug/kg	
109-99-9 Tetra	hydrofuran	ND	500	ug/kg	
108-88-3 Tolue	ene	ND	250	ug/kg	
	-Trichlorobenzene	ND	250	ug/kg	
	-Trichlorobenzene	ND	250	ug/kg	
	-Trichloroethane	ND	100	ug/kg	
, ,	-Trichloroethane	ND	100	ug/kg	
	loroethene	ND	100	ug/kg	
	lorofluoromethane	ND	100	ug/kg	
	-Trichloropropane	ND	250	ug/kg	
	-Trimethylbenzene	ND	250	ug/kg	
	-Trimethylbenzene	ND	250	ug/kg	
· ·	l chloride	ND	100	ug/kg	
	Xylene	ND	100	ug/kg	
95-47-6 o-Xy		ND	100	ug/kg	
1330-20-7 Xylei	ne (total)	ND	100	ug/kg	



## **Method Blank Summary**

Job Number: M96225

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	$\mathbf{B}\mathbf{y}$	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
MSR663-MB	R18611A.D	1	12/07/10	GK	n/a	n/a	MSR663

The QC reported here applies to the following samples:

CAS No.	<b>Surrogate Recoveries</b>	Limits	
1868-53-7	Dibromofluoromethane	114%	70-130%
2037-26-5	Toluene-D8	114%	70-130%
460-00-4	4-Bromofluorobenzene	111%	70-130%



## Blank Spike/Blank Spike Duplicate Summary

Job Number: M96225

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	Ву	Prep Date	Prep Batch	Analytical Batch
MSR663-BS	R18608A.D	1	12/07/10	GK	n/a	n/a	MSR663
MSR663-BSD	R18609A.D	1	12/07/10	GK	n/a	n/a	MSR663

The QC reported here applies to the following samples:

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	2500	2410	96	2160	86	11	70-130/25
71-43-2	Benzene	2500	2740	110	2850	114	4	70-130/25
108-86-1	Bromobenzene	2500	2910	116	2980	119	2	70-130/25
74-97-5	Bromochloromethane	2500	2840	114	2870	115	1	70-130/25
75-27-4	Bromodichloromethane	2500	2950	118	3040	122	3	70-130/25
75-25-2	Bromoform	2500	2900	116	2880	115	1	70-130/25
74-83-9	Bromomethane	2500	2500	100	2590	104	4	70-130/25
78-93-3	2-Butanone (MEK)	2500	2550	102	2490	100	2	70-130/25
104-51-8	n-Butylbenzene	2500	2810	112	2890	116	3	70-130/25
135-98-8	sec-Butylbenzene	2500	2850	114	2950	118	3	70-130/25
98-06-6	tert-Butylbenzene	2500	2920	117	3020	121	3	70-130/25
75-15-0	Carbon disulfide	2500	2770	111	2840	114	2	70-130/25
56-23-5	Carbon tetrachloride	2500	3190	128	3280	131* a	3	70-130/25
108-90-7	Chlorobenzene	2500	3020	121	3080	123	2	70-130/25
75-00-3	Chloroethane	2500	2430	97	2560	102	5	70-130/25
67-66-3	Chloroform	2500	2770	111	2820	113	2	70-130/25
74-87-3	Chloromethane	2500	2150	86	2180	87	1	70-130/25
95-49-8	o-Chlorotoluene	2500	2760	110	2880	115	4	70-130/25
106-43-4	p-Chlorotoluene	2500	2840	114	2930	117	3	70-130/25
108-20-3	Di-Isopropyl ether	2500	2400	96	2430	97	1	70-130/25
96-12-8	1,2-Dibromo-3-chloropropane	2500	2560	102	2590	104	1	70-130/25
124-48-1	Dibromochloromethane	2500	3250	130	3290	132* a	1	70-130/25
106-93-4	1,2-Dibromoethane	2500	2950	118	2960	118	0	70-130/25
95-50-1	1,2-Dichlorobenzene	2500	2920	117	2960	118	1	70-130/25
541-73-1	1,3-Dichlorobenzene	2500	2910	116	2970	119	2	70-130/25
106-46-7	1,4-Dichlorobenzene	2500	2900	116	2960	118	2	70-130/25
75-71-8	Dichlorodifluoromethane	2500	2700	108	2730	109	1	70-130/25
75-34-3	1,1-Dichloroethane	2500	2620	105	2670	107	2	70-130/25
107-06-2	1,2-Dichloroethane	2500	2860	114	2900	116	1	70-130/25
75-35-4	1,1-Dichloroethene	2500	2790	112	2860	114	2	70-130/25
156-59-2	cis-1,2-Dichloroethene	2500	2630	105	2690	108	2	70-130/25
156-60-5	trans-1,2-Dichloroethene	2500	2700	108	2800	112	4	70-130/25
78-87-5	1,2-Dichloropropane	2500	2600	104	2660	106	2	70-130/25
142-28-9	1,3-Dichloropropane	2500	2840	114	2840	114	0	70-130/25
594-20-7	2,2-Dichloropropane	2500	2950	118	3030	121	3	70-130/25
563-58-6	1,1-Dichloropropene	2500	2850	114	2960	118	4	70-130/25

## Blank Spike/Blank Spike Duplicate Summary

Job Number: M96225

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	Ву	Prep Date	Prep Batch	Analytical Batch
MSR663-BS	R18608A.D	1	12/07/10	GK	n/a	n/a	MSR663
MSR663-BSD	R18609A.D	1	12/07/10	GK	n/a	n/a	MSR663

#### The QC reported here applies to the following samples:

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	2500	2910	116	3010	120	3	70-130/25
	trans-1,3-Dichloropropene	2500	3200	128	3250	130	2	70-130/25
123-91-1	1,4-Dioxane	12500	11600	93	12700	102	9	70-130/25
60-29-7	Ethyl Ether	2500	2530	101	2570	103	2	70-130/25
100-41-4	Ethylbenzene	2500	2930	117	2990	120	2	70-130/25
87-68-3	Hexachlorobutadiene	2500	3290	132* a	3390	136* a	3	70-130/25
591-78-6	2-Hexanone	2500	2190	88	2070	83	6	70-130/25
98-82-8	Isopropylbenzene	2500	3290	132* a	3430	137* a	4	70-130/25
99-87-6	p-Isopropyltoluene	2500	2930	117	3010	120	3	70-130/25
1634-04-4	Methyl Tert Butyl Ether	2500	2550	102	2540	102	0	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	2500	2140	86	2170	87	1	70-130/25
74-95-3	Methylene bromide	2500	2900	116	2950	118	2	70-130/25
75-09-2	Methylene chloride	2500	2660	106	2760	110	4	70-130/25
91-20-3	Naphthalene	2500	2670	107	2740	110	3	70-130/25
103-65-1	n-Propylbenzene	2500	2790	112	2910	116	4	70-130/25
100-42-5	Styrene	2500	3080	123	3180	127	3	70-130/25
994-05-8	tert-Amyl Methyl Ether	2500	2640	106	2690	108	2	70-130/25
637-92-3	tert-Butyl Ethyl Ether	2500	2580	103	2590	104	0	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	2500	3190	128	3240	130	2	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	2500	2660	106	2690	108	1	70-130/25
127-18-4	Tetrachloroethene	2500	3210	128	3290	132* a	2	70-130/25
109-99-9	Tetrahydrofuran	2500	2080	83	2060	82	1	70-130/25
108-88-3	Toluene	2500	2800	112	2930	117	5	70-130/25
87-61-6	1,2,3-Trichlorobenzene	2500	2870	115	2930	117	2	70-130/25
120-82-1	1,2,4-Trichlorobenzene	2500	3000	120	3060	122	2	70-130/25
71-55-6	1,1,1-Trichloroethane	2500	3040	122	3100	124	2	70-130/25
79-00-5	1,1,2-Trichloroethane	2500	2690	108	2710	108	1	70-130/25
79-01-6	Trichloroethene	2500	2800	112	2910	116	4	70-130/25
75-69-4	Trichlorofluoromethane	2500	2980	119	3030	121	2	70-130/25
96-18-4	1,2,3-Trichloropropane	2500	2610	104	2690	108	3	70-130/25
95-63-6	1,2,4-Trimethylbenzene	2500	2890	116	2980	119	3	70-130/25
108-67-8	1,3,5-Trimethylbenzene	2500	2910	116	2980	119	2	70-130/25
75-01-4	Vinyl chloride	2500	2990	120	2920	117	2	70-130/25
	m,p-Xylene	5000	5920	118	6100	122	3	70-130/25
95-47-6	o-Xylene	2500	2960	118	3050	122	3	70-130/25
1330-20-7	Xylene (total)	7500	8880	118	9160	122	3	70-130/25

# 5.2.1

## Page 3 of 3

**Method:** SW846 8260B

## Blank Spike/Blank Spike Duplicate Summary

Job Number: M96225

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample MSR663-BS MSR663-BSD	File ID R18608A.D R18609A.D	<b>Analyzed</b> 12/07/10 12/07/10	By GK GK	Prep Date n/a n/a	Prep Batch n/a n/a	Analytical Batch MSR663 MSR663

#### The QC reported here applies to the following samples:

M96225-1, M96225-2, M96225-3, M96225-4, M96225-5, M96225-6, M96225-7, M96225-8

CAS No.	<b>Surrogate Recoveries</b>	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	114%	117%	70-130%
2037-26-5	Toluene-D8	113%	117%	70-130%
460-00-4	4-Bromofluorobenzene	111%	115%	70-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

# Page 1 of 3

**Method:** SW846 8260B

## Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96225

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	Ву	Prep Date	Prep Batch	Analytical Batch
M96199-5MS	R18621.D	1	12/07/10	GK	n/a	n/a	MSR663
M96199-5MSD	R18622.D	1	12/07/10	GK	n/a	n/a	MSR663
M96199-5	R18620.D	1	12/07/10	GK	n/a	n/a	MSR663

The QC reported here applies to the following samples:

CAS No.	Compound	M96199 ug/kg	0-5 Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		2760	2090	76	1650	60* a	24	70-130/30
71-43-2	Benzene	20.4		2760	3010	108	3150	114	5	70-130/30
108-86-1	Bromobenzene	ND		2760	3100	112	3220	117	4	70-130/30
74-97-5	Bromochloromethane	ND		2760	2990	108	3140	114	5	70-130/30
75-27-4	Bromodichloromethane	ND		2760	3180	115	3250	118	2	70-130/30
75-25-2	Bromoform	ND		2760	3080	112	3130	114	2	70-130/30
74-83-9	Bromomethane	ND		2760	2820	102	2960	107	5	70-130/30
78-93-3	2-Butanone (MEK)	ND		2760	2390	87	2020	73	17	70-130/30
104-51-8	n-Butylbenzene	ND		2760	3030	110	3170	115	5	70-130/30
135-98-8	sec-Butylbenzene	ND		2760	3080	112	3250	118	5	70-130/30
98-06-6	tert-Butylbenzene	ND		2760	3130	114	3290	119	5	70-130/30
75-15-0	Carbon disulfide	ND		2760	2980	108	3210	116	7	70-130/30
56-23-5	Carbon tetrachloride	ND		2760	3510	127	3610	131* a	3	70-130/30
108-90-7	Chlorobenzene	ND		2760	3270	119	3380	123	3	70-130/30
75-00-3	Chloroethane	ND		2760	2730	99	2930	106	7	70-130/30
67-66-3	Chloroform	ND		2760	2990	108	3100	112	4	70-130/30
74-87-3	Chloromethane	ND		2760	2310	84	2560	93	10	70-130/30
95-49-8	o-Chlorotoluene	ND		2760	2980	108	3110	113	4	70-130/30
106-43-4	p-Chlorotoluene	ND		2760	3050	111	3180	115	4	70-130/30
108-20-3	Di-Isopropyl ether	ND		2760	2580	94	2690	98	4	70-130/30
96-12-8	1,2-Dibromo-3-chloropropane	ND		2760	2780	101	2840	103	2	70-130/30
124-48-1	Dibromochloromethane	ND		2760	3480	126	3530	128	1	70-130/30
106-93-4	1,2-Dibromoethane	ND		2760	3160	115	3240	118	3	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		2760	3130	114	3230	117	3	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		2760	3130	114	3240	118	3	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		2760	3080	112	3230	117	5	70-130/30
75-71-8	Dichlorodifluoromethane	ND		2760	2900	105	3080	112	6	70-130/30
75-34-3	1,1-Dichloroethane	ND		2760	2840	103	2990	108	5	70-130/30
107-06-2	1,2-Dichloroethane	ND		2760	3100	112	3170	115	2	70-130/30
75-35-4	1,1-Dichloroethene	ND		2760	3010	109	3190	116	6	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		2760	2850	103	2980	108	4	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		2760	2930	106	3130	114	7	70-130/30
78-87-5	1,2-Dichloropropane	ND		2760	2820	102	2950	107	5	70-130/30
142-28-9	1,3-Dichloropropane	ND		2760	3040	110	3060	111	1	70-130/30
594-20-7	2,2-Dichloropropane	ND		2760	3140	114	3290	119	5	70-130/30
563-58-6	1,1-Dichloropropene	ND		2760	3110	113	3300	120	6	70-130/30

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**Method:** SW846 8260B

## Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96225

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
M96199-5MS	R18621.D	1	12/07/10	GK	n/a	n/a	MSR663
M96199-5MSD	R18622.D	1	12/07/10	GK	n/a	n/a	MSR663
M96199-5	R18620.D	1	12/07/10	GK	n/a	n/a	MSR663

The QC reported here applies to the following samples:

CAS No.	Compound	M96199 ug/kg	0-5 Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		2760	3160	115	3250	118	3	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		2760	3430	124	3520	128	3	70-130/30
123-91-1	1,4-Dioxane	ND		13800	12800	93	13400	97	5	70-130/30
60-29-7	Ethyl Ether	ND		2760	2700	98	2810	102	4	70-130/30
100-41-4	Ethylbenzene	ND		2760	3190	116	3290	119	3	70-130/30
87-68-3	Hexachlorobutadiene	ND		2760	3440	125	3650	132* a	6	70-130/30
591-78-6	2-Hexanone	ND		2760	2050	74	1790	65* a	14	70-130/30
98-82-8	Isopropylbenzene	ND		2760	3590	130	3780	137* a	5	70-130/30
99-87-6	p-Isopropyltoluene	ND		2760	3160	115	3310	120	5	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		2760	2740	99	2840	103	4	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		2760	2300	83	2290	83	0	70-130/30
74-95-3	Methylene bromide	ND		2760	3100	112	3160	115	2	70-130/30
75-09-2	Methylene chloride	ND		2760	2910	106	3060	111	5	70-130/30
91-20-3	Naphthalene	136		2760	2820	97	3040	105	8	70-130/30
103-65-1	n-Propylbenzene	ND		2760	3020	110	3170	115	5	70-130/30
100-42-5	Styrene	ND		2760	3350	122	3450	125	3	70-130/30
994-05-8	tert-Amyl Methyl Ether	ND		2760	2850	103	2950	107	3	70-130/30
637-92-3	tert-Butyl Ethyl Ether	ND		2760	2790	101	2880	104	3	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		2760	3460	126	3550	129	3	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		2760	2830	103	2880	104	2	70-130/30
127-18-4	Tetrachloroethene	ND		2760	3470	126	3590	130	3	70-130/30
109-99-9	Tetrahydrofuran	ND		2760	2290	83	2270	82	1	70-130/30
108-88-3	Toluene	38.8		2760	3100	111	3230	116	4	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		2760	2900	105	3130	114	8	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		2760	3160	115	3320	120	5	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		2760	3310	120	3440	125	4	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		2760	2970	108	3000	109	1	70-130/30
79-01-6	Trichloroethene	ND		2760	3070	111	3260	118	6	70-130/30
75-69-4	Trichlorofluoromethane	ND		2760	3280	119	3390	123	3	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		2760	2830	103	2860	104	1	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		2760	3110	113	3240	118	4	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		2760	3130	114	3270	119	4	70-130/30
75-01-4	Vinyl chloride	ND		2760	3610	131* a	3560	129	1	70-130/30
	m,p-Xylene	26.2		5510	6500	117	6730	122	3	70-130/30
95-47-6	o-Xylene	ND		2760	3270	119	3380	123	3	70-130/30
1330-20-7	Xylene (total)	26.2		8270	9760	118	10100	122	3	70-130/30

# 5.3.1

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**Method:** SW846 8260B

## Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96225

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
M96199-5MS	R18621.D	1	12/07/10	GK	n/a	n/a	MSR663
M96199-5MSD	R18622.D	1	12/07/10	GK	n/a	n/a	MSR663
M96199-5	R18620.D	1	12/07/10	GK	n/a	n/a	MSR663

The QC reported here applies to the following samples:

M96225-1, M96225-2, M96225-3, M96225-4, M96225-5, M96225-6, M96225-7, M96225-8

CAS No.	Surrogate Recoveries	MS	MSD	M96199-5	Limits
	Dibromofluoromethane	112%	118%	113%	70-130%
2037-26-5 460-00-4	Toluene-D8 4-Bromofluorobenzene	112% 110%	117% 113%	111% 111%	70-130% 70-130%

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.

## **Volatile Internal Standard Area Summary**

Job Number: M96225

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

 Check Std:
 MSR663-CC638
 Injection Date:
 12/07/10

 Lab File ID:
 R18607A.D
 Injection Time:
 11:42

**Instrument ID:** GCMSR **Method:** SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std Upper Limit <sup>a</sup> Lower Limit <sup>b</sup>	245633 491266 122817	9.11 9.61 8.61	334396 668792 167198	9.98 10.48 9.48	163836 327672 81918	13.25 13.75 12.75	209360 418720 104680	15.81 16.31 15.31	115130	6.69 7.19 6.19
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSR663-BS MSR663-BSD MSR663-MB M96225-1 M96225-2 M96225-4 M96225-5 M96225-6 M96225-7 M96225-8 ZZZZZZ M96199-5 M96199-5MS M96199-5MSD ZZZZZZ ZZZZZ ZZZZZZ	253675 263012 242830 241428 242379 248034 244906 255050 257923 252139 255355 254353 256007 262654 242399 248803 265404	9.11 9.11 9.11 9.11 9.12 9.11 9.12 9.11 9.11	349518 358034 323578 320487 321117 327937 322125 338140 341496 333503 346440 343345 351908 361449 326304 337716 356400	9.99 9.99 9.99 9.99 9.99 9.99 9.99 9.9	168530 173848 149093 149117 149308 152646 152153 155352 157408 156694 160157 158674 170707 175747 157304 160511 166624		215284 219560 195619 198728 199531 201398 200450 204976 207045 206389 211754	15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81	59624 60013 57708 58413 57282 60138 62710 59382 58768 57477 58299 59499 58454 61397 60801 61946	6.69 6.69 6.69 6.69 6.69 6.69 6.69 6.69
ZZZZZZ ZZZZZZ ZZZZZZ ZZZZZZ ZZZZZZ M96225-3 ZZZZZZ	261529 254737 252366 254895 257016 259611 46991°	9.11 9.11 9.11 9.11 9.11 9.11 9.12	350386 345434 339362 344973 340928 349349 44006°	9.99 9.99 9.99 9.99 9.99 10.00	161029 157067 158197 161294 159441 161216 25167°	13.25 13.25 13.25 13.25 13.25 13.25 13.26	210522 207079 208732 210656 208644 214770 20151c	15.81 15.81 15.81 15.81 15.81 15.81 15.82	62685 64542 64093 64093	6.69 6.69 6.69 6.69 6.69 6.69 6.67

IS 1 = Pentafluorobenzene
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5
IS 4 = 1,4-Dichlorobenzene-d4
IS 5 = Tert Butyl Alcohol-D9

- (a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
- (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
- (c) Outside control limits due to possible matrix interference. Confirmed by reanalysis.



## **Volatile Surrogate Recovery Summary**

Job Number: M96225

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Method: SW846 8260B Matrix: SO

### Samples and QC shown here apply to the above method

Lab	Lab			
Sample ID	File ID	S1	S2	S3
M96225-1	R18612.D	108.0	108.0	105.0
M96225-2	R18613.D	110.0	108.0	104.0
M96225-3	R18632.D	99.0	114.0	111.0
M96225-4	R18614.D	112.0	111.0	109.0
M96225-5	R18615.D	111.0	113.0	108.0
M96225-6	R18616.D	109.0	111.0	108.0
M96225-7	R18617.D	108.0	108.0	107.0
M96225-8	R18618.D	109.0	110.0	108.0
M96199-5MS	R18621.D	112.0	112.0	110.0
M96199-5MSD	R18622.D	118.0	117.0	113.0
MSR663-BS	R18608A.D	114.0	113.0	111.0
MSR663-BSD	R18609A.D	117.0	117.0	115.0
MSR663-MB	R18611A.D	114.0	114.0	111.0

Surrogate Recovery Compounds Limits

 $\mathbf{S1} = \text{Dibromofluoromethane}$  70-130%  $\mathbf{S2} = \text{Toluene-D8}$  70-130%  $\mathbf{S3} = 4\text{-Bromofluorobenzene}$  70-130%





## GC/MS Semi-volatiles

## QC Data Summaries

## Includes the following where applicable:

- · Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries



**Method:** SW846 8270C

## **Method Blank Summary**

Job Number: M96225

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample OP23515-MB	<b>File ID</b> S19763.D	<b>DF</b> 1	<b>Analyzed</b> 12/06/10	<b>By</b> PR	<b>Prep Date</b> 12/03/10	Prep Batch OP23515	<b>Analytical Batch</b> MSS816

### The QC reported here applies to the following samples:

CAS No.	Compound	Result	RL	Units Q
65-85-0	Benzoic acid	ND	500	ug/kg
95-57-8	2-Chlorophenol	ND	250	ug/kg
59-50-7	4-Chloro-3-methyl phenol	ND	500	ug/kg
120-83-2	2,4-Dichlorophenol	ND	500	ug/kg
105-67-9	2,4-Dimethylphenol	ND	500	ug/kg
51-28-5	2,4-Dinitrophenol	ND	990	ug/kg
95-48-7	2-Methylphenol	ND	500	ug/kg
	3&4-Methylphenol	ND	500	ug/kg
88-75-5	2-Nitrophenol	ND	500	ug/kg
100-02-7	4-Nitrophenol	ND	990	ug/kg
87-86-5	Pentachlorophenol	ND	500	ug/kg
108-95-2	Phenol	ND	250	ug/kg
95-95-4	2,4,5-Trichlorophenol	ND	500	ug/kg
88-06-2	2,4,6-Trichlorophenol	ND	500	ug/kg
83-32-9	Acenaphthene	ND	250	ug/kg
208-96-8	Acenaphthylene	ND	250	ug/kg
98-86-2	Acetophenone	ND	500	ug/kg
62-53-3	Aniline	ND	500	ug/kg
120-12-7	Anthracene	ND	250	ug/kg
56-55-3	Benzo(a)anthracene	ND	250	ug/kg
50-32-8	Benzo(a)pyrene	ND	250	ug/kg
205-99-2	Benzo(b)fluoranthene	ND	250	ug/kg
191-24-2	Benzo(g,h,i)perylene	ND	250	ug/kg
207-08-9	Benzo(k)fluoranthene	ND	250	ug/kg
101-55-3	4-Bromophenyl phenyl ether	ND	250	ug/kg
85-68-7	Butyl benzyl phthalate	ND	250	ug/kg
91-58-7	2-Chloronaphthalene	ND	250	ug/kg
106-47-8	4-Chloroaniline	ND	500	ug/kg
218-01-9	Chrysene	ND	250	ug/kg
111-91-1	bis(2-Chloroethoxy)methane	ND	250	ug/kg
111-44-4	bis(2-Chloroethyl)ether	ND	250	ug/kg
108-60-1	bis(2-Chloroisopropyl)ether	ND	250	ug/kg
95-50-1	1,2-Dichlorobenzene	ND	250	ug/kg
122-66-7	1,2-Diphenylhydrazine	ND	250	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	250	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	250	ug/kg



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**Method:** SW846 8270C

## **Method Blank Summary**

Job Number: M96225

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample OP23515-MB	<b>File ID</b> S19763.D	<b>DF</b> 1	<b>Analyzed</b> 12/06/10	<b>By</b> PR	Prep Date 12/03/10	Prep Batch OP23515	Analytical Batch MSS816

### The QC reported here applies to the following samples:

CAS No.	Compound	Result	RL	Units Q
121-14-2	2,4-Dinitrotoluene	ND	500	ug/kg
606-20-2	2,6-Dinitrotoluene	ND	500	ug/kg
91-94-1	3,3'-Dichlorobenzidine	ND	250	ug/kg
53-70-3	Dibenzo(a,h)anthracene	ND	250	ug/kg
132-64-9	Dibenzofuran	ND	250	ug/kg
84-74-2	Di-n-butyl phthalate	ND	250	ug/kg
117-84-0	Di-n-octyl phthalate	ND	250	ug/kg
84-66-2	Diethyl phthalate	ND	250	ug/kg
131-11-3	Dimethyl phthalate	ND	250	ug/kg
117-81-7	bis(2-Ethylhexyl)phthalate	ND	250	ug/kg
206-44-0	Fluoranthene	ND	250	ug/kg
86-73-7	Fluorene	ND	250	ug/kg
118-74-1	Hexachlorobenzene	ND	250	ug/kg
87-68-3	Hexachlorobutadiene	ND	250	ug/kg
77-47-4	Hexachlorocyclopentadiene	ND	500	ug/kg
67-72-1	Hexachloroethane	ND	250	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	ND	250	ug/kg
78-59-1	Isophorone	ND	250	ug/kg
91-57-6	2-Methylnaphthalene	ND	250	ug/kg
91-20-3	Naphthalene	ND	250	ug/kg
98-95-3	Nitrobenzene	ND	250	ug/kg
621-64-7	N-Nitroso-di-n-propylamine	ND	250	ug/kg
86-30-6	N-Nitrosodiphenylamine	ND	250	ug/kg
85-01-8	Phenanthrene	ND	250	ug/kg
129-00-0	Pyrene	ND	250	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	250	ug/kg

CAS No.	<b>Surrogate Recoveries</b>		Limits
367-12-4	2-Fluorophenol	60%	30-130%
4165-62-2	Phenol-d5	63%	30-130%
118-79-6	2,4,6-Tribromophenol	64%	30-130%
4165-60-0	Nitrobenzene-d5	62%	30-130%
321-60-8	2-Fluorobiphenyl	67%	30-130%
1718-51-0	Terphenyl-d14	86%	30-130%



**Method:** SW846 8270C

## Blank Spike/Blank Spike Duplicate Summary

Job Number: M96225

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

File ID	DF	Analyzed	$\mathbf{B}\mathbf{y}$	Prep Date	Prep Batch	<b>Analytical Batch</b>
S19764.D	1	12/06/10	PR	12/03/10	OP23515	MSS816
S19765.D	1	12/06/10	PR	12/03/10	OP23515	MSS816
	S19764.D	S19764.D 1	S19764.D 1 12/06/10	S19764.D 1 12/06/10 PR	S19764.D 1 12/06/10 PR 12/03/10	S19764.D 1 12/06/10 PR 12/03/10 OP23515

The QC reported here applies to the following samples:

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic acid	4970	653	13* a	596	12* a	9	30-130/30
95-57-8	2-Chlorophenol	4970	3480	70	3150	63	10	30-130/30
59-50-7	4-Chloro-3-methyl phenol	4970	4090	82	3710	75	10	30-130/30
120-83-2	2,4-Dichlorophenol	4970	3870	78	3490	70	10	30-130/30
105-67-9	2,4-Dimethylphenol	4970	3430	69	3180	64	8	30-130/30
51-28-5	2,4-Dinitrophenol	4970	1520	31	1290	26* a	16	30-130/30
95-48-7	2-Methylphenol	4970	3560	72	3280	66	8	30-130/30
	3&4-Methylphenol	9940	7370	74	6790	68	8	30-130/30
88-75-5	2-Nitrophenol	4970	3690	74	3350	67	10	30-130/30
100-02-7	4-Nitrophenol	4970	3710	75	3360	68	10	30-130/30
87-86-5	Pentachlorophenol	4970	3210	65	2890	58	10	30-130/30
108-95-2	Phenol	4970	3350	67	3070	62	9	30-130/30
95-95-4	2,4,5-Trichlorophenol	4970	3950	79	3570	72	10	30-130/30
88-06-2	2,4,6-Trichlorophenol	4970	3900	78	3580	72	9	30-130/30
83-32-9	Acenaphthene	2490	1960	79	1790	72	9	40-140/30
208-96-8	Acenaphthylene	2490	1450	58	1340	54	8	40-140/30
98-86-2	Acetophenone	2490	1710	69	1560	63	9	40-140/30
62-53-3	Aniline	2490	1450	58	1320	53	9	40-140/30
120-12-7	Anthracene	2490	2060	83	1900	76	8	40-140/30
56-55-3	Benzo(a)anthracene	2490	2430	98	2250	91	8	40-140/30
50-32-8	Benzo(a)pyrene	2490	2240	90	2010	81	11	40-140/30
205-99-2	Benzo(b)fluoranthene	2490	2360	95	2170	87	8	40-140/30
191-24-2	Benzo(g,h,i)perylene	2490	2210	89	2060	83	7	40-140/30
207-08-9	Benzo(k)fluoranthene	2490	2290	92	2090	84	9	40-140/30
101-55-3	4-Bromophenyl phenyl ether	2490	2070	83	1900	76	9	40-140/30
85-68-7	Butyl benzyl phthalate	2490	2550	103	2310	93	10	40-140/30
91-58-7	2-Chloronaphthalene	2490	1890	76	1750	70	8	40-140/30
106-47-8	4-Chloroaniline	2490	1610	65	1470	59	9	40-140/30
218-01-9	Chrysene	2490	2520	101	2320	93	8	40-140/30
111-91-1	bis(2-Chloroethoxy)methane	2490	1780	72	1610	65	10	40-140/30
111-44-4	bis(2-Chloroethyl)ether	2490	1680	68	1510	61	11	40-140/30
108-60-1	bis(2-Chloroisopropyl)ether	2490	1600	64	1450	58	10	40-140/30
95-50-1	1,2-Dichlorobenzene	2490	1660	67	1490	60	11	40-140/30
122-66-7	1,2-Diphenylhydrazine	2490	1860	75	1690	68	10	40-140/30
541-73-1	1,3-Dichlorobenzene	2490	1600	64	1440	58	11	40-140/30
106-46-7	1,4-Dichlorobenzene	2490	1620	65	1460	59	10	40-140/30

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**Method:** SW846 8270C

## Blank Spike/Blank Spike Duplicate Summary

Job Number: M96225

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	<b>Analytical Batch</b>
OP23515-BS	S19764.D	1	12/06/10	PR	12/03/10	OP23515	MSS816
OP23515-BSD	S19765.D	1	12/06/10	PR	12/03/10	OP23515	MSS816

### The QC reported here applies to the following samples:

		Spike	BSP	BSP	BSD	BSD		Limits
CAS No.	Compound	ug/kg	ug/kg	<b>%</b>	ug/kg	%	RPD	Rec/RPD
121-14-2	2,4-Dinitrotoluene	2490	2170	87	1960	79	10	40-140/30
606-20-2	2,6-Dinitrotoluene	2490	2090	84	1900	76	10	40-140/30
91-94-1	3,3'-Dichlorobenzidine	2490	2040	82	1890	76	8	40-140/30
53-70-3	Dibenzo(a,h)anthracene	2490	2440	98	2310	93	5	40-140/30
132-64-9	Dibenzofuran	2490	1950	78	1780	72	9	40-140/30
84-74-2	Di-n-butyl phthalate	2490	2380	96	2180	88	9	40-140/30
117-84-0	Di-n-octyl phthalate	2490	3170	128	2760	111	14	40-140/30
84-66-2	Diethyl phthalate	2490	2190	88	1990	80	10	40-140/30
131-11-3	Dimethyl phthalate	2490	2100	85	1900	76	10	40-140/30
117-81-7	bis(2-Ethylhexyl)phthalate	2490	2660	107	2430	98	9	40-140/30
206-44-0	Fluoranthene	2490	2230	90	2080	84	7	40-140/30
86-73-7	Fluorene	2490	2050	82	1890	76	8	40-140/30
118-74-1	Hexachlorobenzene	2490	2070	83	1890	76	9	40-140/30
87-68-3	Hexachlorobutadiene	2490	1720	69	1540	62	11	40-140/30
77-47-4	Hexachlorocyclopentadiene	2490	902	36* a	788	32* a	13	40-140/30
67-72-1	Hexachloroethane	2490	1570	63	1410	57	11	40-140/30
193-39-5	Indeno(1,2,3-cd)pyrene	2490	2410	97	2250	91	7	40-140/30
78-59-1	Isophorone	2490	1780	72	1630	66	9	40-140/30
91-57-6	2-Methylnaphthalene	2490	1820	73	1670	67	9	40-140/30
91-20-3	Naphthalene	2490	1780	72	1620	65	9	40-140/30
98-95-3	Nitrobenzene	2490	1640	66	1470	59	11	40-140/30
621-64-7	N-Nitroso-di-n-propylamine	2490	1860	75	1690	68	10	40-140/30
86-30-6	N-Nitrosodiphenylamine	2490	2110	85	1940	78	8	40-140/30
85-01-8	Phenanthrene	2490	1970	79	1800	72	9	40-140/30
129-00-0	Pyrene	2490	2300	93	2060	83	11	40-140/30
120-82-1	1,2,4-Trichlorobenzene	2490	1720	69	1560	63	10	40-140/30

CAS No.	<b>Surrogate Recoveries</b>	BSP	BSD	Limits
367-12-4 4165-62-2 118-79-6 4165-60-0 321-60-8	2-Fluorophenol Phenol-d5 2,4,6-Tribromophenol Nitrobenzene-d5 2-Fluorobiphenyl	69% 72% 84% 70% 76%	62% 66% 77% 63% 70%	30-130% 30-130% 30-130% 30-130% 30-130%
1718-51-0	Terphenyl-d14	96%	86%	30-130%



# 6.2.1

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**Method:** SW846 8270C

## Blank Spike/Blank Spike Duplicate Summary

Job Number: M96225

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

				Analytical Batch
12/06/10	PR	12/03/10	OP23515	MSS816
12/06/10	PR	12/03/10	OP23515	MSS816

The QC reported here applies to the following samples:

M96225-1, M96225-2, M96225-3, M96225-4, M96225-5, M96225-6, M96225-7, M96225-8

(a) Outside control limits. Blank Spike meets program technical requirements.

**Method:** SW846 8270C

## Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96225

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	<b>Prep Date</b>	Prep Batch	<b>Analytical Batch</b>
OP23515-MS	S19766.D	1	12/06/10	PR	12/03/10	OP23515	MSS816
OP23515-MSD	S19767.D	1	12/06/10	PR	12/03/10	OP23515	MSS816
M96225-8	S19781.D	1	12/07/10	PR	12/03/10	OP23515	MSS816

The QC reported here applies to the following samples:

CAS No.	Compound	M96225 ug/kg	5-8 Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic acid	ND		6610	2310	35	1850	28* a	22	30-130/30
95-57-8	2-Chlorophenol	ND		6610	4170	63	3700	56	12	30-130/30
59-50-7	4-Chloro-3-methyl phenol	ND		6610	5010	76	4340	66	14	30-130/30
120-83-2	2,4-Dichlorophenol	ND		6610	4720	71	4220	64	11	30-130/30
105-67-9	2,4-Dimethylphenol	167		6610	4500	66	4200	61	7	30-130/30
51-28-5	2,4-Dinitrophenol	ND		6610	1080	16* a	ND	0* a	200* a	30-130/30
95-48-7	2-Methylphenol	98.2		6610	4510	67	4040	60	11	30-130/30
	3&4-Methylphenol	727		13200	9480	66	8920	62	6	30-130/30
88-75-5	2-Nitrophenol	ND		6610	2520	38	2090	32	19	30-130/30
100-02-7	4-Nitrophenol	ND		6610	4530	69	4380	67	3	30-130/30
87-86-5	Pentachlorophenol	ND		6610	5030	76	4200	64	18	30-130/30
108-95-2	Phenol	ND		6610	4160	63	4050	62	3	30-130/30
95-95-4	2,4,5-Trichlorophenol	ND		6610	5160	78	4570	69	12	30-130/30
88-06-2	2,4,6-Trichlorophenol	ND		6610	5010	76	4560	69	9	30-130/30
83-32-9	Acenaphthene	3830		3300	5810	60	10300	197* b	56* c	40-140/30
208-96-8	Acenaphthylene	471		3300	2160	51	5780	161* b	91* c	40-140/30
98-86-2	Acetophenone	ND		3300	2030	61	1810	55	11	40-140/30
62-53-3	Aniline	ND		3300	1460	44	1310	40	11	40-140/30
120-12-7	Anthracene	4020		3300	6290	69	27400	710* b	125* c	40-140/30
56-55-3	Benzo(a)anthracene	5400		3300	7390	60	36200	936* b	132* c	40-140/30
50-32-8	Benzo(a)pyrene	3260		3300	5160	58	20400	521* b	119* <sup>c</sup>	40-140/30
205-99-2	Benzo(b)fluoranthene	3300		3300	4640	41	25500	675* b	138* c	40-140/30
191-24-2	Benzo(g,h,i)perylene	998		3300	4750	114	8590	231* b	58* c	40-140/30
207-08-9	Benzo(k)fluoranthene	2590		3300	4470	57	6590	122	38* c	40-140/30
101-55-3	4-Bromophenyl phenyl ether	ND		3300	2620	79	2410	73	8	40-140/30
85-68-7	Butyl benzyl phthalate	ND		3300	3140	95	2920	89	7	40-140/30
91-58-7	2-Chloronaphthalene	ND		3300	2260	68	2070	63	9	40-140/30
106-47-8	4-Chloroaniline	ND		3300	1600	48	1650	50	3	40-140/30
218-01-9	Chrysene	5550		3300	7510	59	32400	816* b	125* <sup>c</sup>	40-140/30
111-91-1	bis(2-Chloroethoxy)methane	ND		3300	2070	63	1830	56	12	40-140/30
111-44-4	bis(2-Chloroethyl)ether	ND		3300	2060	62	1750	53	16	40-140/30
108-60-1	bis(2-Chloroisopropyl)ether	ND		3300	1900	58	1620	49	16	40-140/30
95-50-1	1,2-Dichlorobenzene	ND		3300	1920	58	1660	50	15	40-140/30
122-66-7	1,2-Diphenylhydrazine	ND		3300	2150	65	2680	81	22	40-140/30
541-73-1	1,3-Dichlorobenzene	ND		3300	1860	56	1530	46	19	40-140/30
106-46-7	1,4-Dichlorobenzene	ND		3300	1880	57	1600	49	16	40-140/30

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**Method:** SW846 8270C

## Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96225

1718-51-0 Terphenyl-d14

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	<b>Prep Date</b>	Prep Batch	<b>Analytical Batch</b>
OP23515-MS	S19766.D	1	12/06/10	PR	12/03/10	OP23515	MSS816
OP23515-MSD	S19767.D	1	12/06/10	PR	12/03/10	OP23515	MSS816
M96225-8	S19781.D	1	12/07/10	PR	12/03/10	OP23515	MSS816

#### The QC reported here applies to the following samples:

M96225-1, M96225-2, M96225-3, M96225-4, M96225-5, M96225-6, M96225-7, M96225-8

	M96225-8 Spike MS MS		MS	MSD	Limits						
CAS No.	Compound	ug/kg	Q	ug/kg	ug/kg	%	ug/kg	MSD %	RPD	Rec/RPD	
121-14-2	2,4-Dinitrotoluene	ND		3300	1770	54	1680	51	5	40-140/30	
606-20-2	2,6-Dinitrotoluene	ND		3300	1890	57	1640	50	14	40-140/30	
91-94-1	3,3'-Dichlorobenzidine	ND		3300	ND	0* b	1270	39* b	200* c	40-140/30	
53-70-3	Dibenzo(a,h)anthracene	542		3300	3700	96	6190	172* b	50* c	40-140/30	
132-64-9	Dibenzofuran	2010		3300	4200	66	9510	228* b	77* <sup>c</sup>	40-140/30	
84-74-2	Di-n-butyl phthalate	ND		3300	2830	86	2720	83	4	40-140/30	
117-84-0	Di-n-octyl phthalate	ND		3300	2990	91	2270	69	27	40-140/30	
84-66-2	Diethyl phthalate	ND		3300	2680	81	2380	72	12	40-140/30	
131-11-3	Dimethyl phthalate	ND		3300	2490	75	2240	68	11	40-140/30	
117-81-7	bis(2-Ethylhexyl)phthalate	ND		3300	3300	100	2390	73	32* c	40-140/30	
206-44-0	Fluoranthene	10500		3300	10900	12* d	52900	1288*	132* d	40-140/30	
86-73-7	Fluorene	3610		3300	6000	72	17200	413* b	97* c	40-140/30	
118-74-1	Hexachlorobenzene	ND		3300	2490	75	2300	70	8	40-140/30	
87-68-3	Hexachlorobutadiene	ND		3300	2010	61	1750	53	14	40-140/30	
77-47-4	Hexachlorocyclopentadiene	ND		3300	ND	0* a	ND	0* a	nc	40-140/30	
67-72-1	Hexachloroethane	ND		3300	527	16* b	392	12* b	29	40-140/30	
193-39-5	Indeno(1,2,3-cd)pyrene	1150		3300	4570	104	9400	251* b	69* c	40-140/30	
78-59-1	Isophorone	ND		3300	2110	64	1910	58	10	40-140/30	
91-57-6	2-Methylnaphthalene	2010		3300	3920	58	6700	143* b	52* c	40-140/30	
91-20-3	Naphthalene	5360		3300	6450	33* b	6900	47	7	40-140/30	
98-95-3	Nitrobenzene	ND		3300	1740	53	1530	46	13	40-140/30	
621-64-7	N-Nitroso-di-n-propylamine	ND		3300	2140	65	1920	58	11	40-140/30	
86-30-6	N-Nitrosodiphenylamine	ND		3300	2910	88	4180	127	36* c	40-140/30	
85-01-8	Phenanthrene	12700		3300	14900	67	60500	1453* d		40-140/30	
129-00-0	Pyrene	7840		3300	11700	117	45300		1118* c	40-140/30	
120-82-1	1,2,4-Trichlorobenzene	ND		3300	2040	62	1800	55	13	40-140/30	
CAS No.	Surrogate Recoveries	MS		MSD	MS	06225-8	Limits				
0.77.10 :	2.71	<b>52</b> 07					00.100-				
367-12-4	2-Fluorophenol	62%		55%			30-130%				
4165-62-2	Phenol-d5	64%			56% 62%		30-130%				
118-79-6	2,4,6-Tribromophenol	82%		77% 77%		30-130%					
4165-60-0	Nitrobenzene-d5	56%		51% 56%			30-130%				
321-60-8	2-Fluorobiphenyl	68%		63%	70%		30-130%				

75%

61%

30-130%

84%



## 3.1

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**Method:** SW846 8270C

### σ

## Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96225

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP23515-MS	S19766.D	1	12/06/10	PR	12/03/10	OP23515	MSS816
OP23515-MSD	S19767.D	1	12/06/10	PR	12/03/10	OP23515	MSS816
M96225-8	S19781.D	1	12/07/10	PR	12/03/10	OP23515	MSS816

#### The QC reported here applies to the following samples:

- (a) Outside control limits. Blank Spike meets program technical requirements.
- (b) Outside control limits due to possible matrix interference. Refer to Blank Spike.
- (c) High RPD due to possible matrix interference and/or sample non-homogeneity.
- (d) Outside control limits due to high level in sample relative to spike amount.

## Semivolatile Internal Standard Area Summary

**Job Number:** M96225

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Check Std:MSS816-CC805Injection Date:12/06/10Lab File ID:S19759.DInjection Time:18:39

**Instrument ID:** GCMSS Method: SW846 8270C

	IS 1		<b>IS 2</b>		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	322489	6.08	1256165	7.45	646294	9.69	1060346	11.91	987196	16.28	919151	18.52
Upper Limit <sup>a</sup>	644978	6.58	2512330	7.95	1292588	10.19	2120692	12.41	1974392	16.78	1838302	19.02
Lower Limit <sup>b</sup>	161245	5.58	628083	6.95	323147	9.19	530173	11.41	493598	15.78	459576	18.02
Lab	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
ZZZZZZ	340673	6.08	1364807	7.45	675111	9.69	1087964	11.90	1014064	16.27	923460	18.52
OP23509-LB	379914	6.08	1585362	7.45	790025	9.69	1239902	11.90	1132605	16.27	1017663	18.52
ZZZZZZ	292899	6.08	1235436	7.45	620799	9.69	975647	11.90	825876	16.27	703727	18.52
OP23515-MB	398327	6.08	1689629	7.45	857569	9.69	1325625	11.90	1241886	16.27	1005164	18.52
OP23515-BS	402764	6.08	1586588	7.45	805282	9.69	1298048	11.90	1136922		955170	18.52
OP23515-BSD	390651	6.08	1539718	7.45	778704	9.69	1243198	11.90	1125802	16.27	983844	18.52
OP23515-MS	428153	6.08	1699122	7.45	837421	9.69	1282463	11.91	985056	16.29	1088928	18.54
OP23515-MSD	377663	6.08	1495614	7.45	717064	9.69	1071504	11.93	1070231	16.36	1502243	18.62
ZZZZZZ	451065	6.08	1875350	7.45	896768	9.69	1290843	11.92	1156321	16.30	1439875	18.56
ZZZZZZ	395834	6.08	1629310	7.45	782701	9.69	1159708	11.91	1189954	16.30	1379257	18.56
ZZZZZZ	411292	6.08	1684834	7.45	786925	9.69	1143251	11.92	1244710		1293265	18.57
ZZZZZZ	416072	6.08	1724205		823265	9.69	1195569	11.92	1244021		1441865	
ZZZZZZ	397842	6.08	1531859		782504	9.69	1200439		1234265		1415889	
ZZZZZZ	453939	6.08	1858791		840997	9.69	1191468				1429479	
M96225-1	326939	6.08	1381301		685978	9.69			1189560		1278510	
M96225-2	403960	6.08	1654348		767608	9.69	1125063		1179223		1255055	
M96225-3	314863	6.08	1301468		646407	9.69	1016545		1052293		1153066	
M96225-4	426461	6.08	1717899		792666	9.69	1159318		1153544		1246122	
M96225-5	387464	6.08	1562360		734552	9.69	1094293		1219035		1142038	
M96225-6	395148	6.08	1632914		770297	9.69	1121464		1247355		1270905	
M96225-7	448418	6.08	1836022		861336	9.69	1229516		1332448		1294976	
M96225-8	431072	6.08	1748528		802270	9.69			1250760		1261628	
M95397-50	346797	6.08	1454225	7.45	707354	9.69	1105851	11.91	980884	16.28	881437	18.53

**IS 1** = 1,4-Dichlorobenzene-d4

IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

- (a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
- (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.



## Semivolatile Internal Standard Area Summary

Job Number: M96225

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

 Check Std:
 MSS818-CC805
 Injection Date:
 12/07/10

 Lab File ID:
 S19786.D
 Injection Time:
 13:20

**Instrument ID:** GCMSS **Method:** SW846 8270C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	307796	6.07	1219821	7.45	611674	9.68	978838	11.90	943971	16.27	896277	18.52
Upper Limit <sup>a</sup>	615592	6.57	2439642	7.95	1223348	10.18	1957676	12.40	1887942	16.77	1792554	19.02
Lower Limit b	153898	5.57	609911	6.95	305837	9.18	489419	11.40	471986	15.77	448139	18.02
Lab	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
ZZZZZZ	336899	6.07	1411285	7.44	687713	9.68	1081429	11.90	957059	16.27	913836	18.52
M96225-1	325799	6.07	1382829	7.44	696309	9.68	1105261	11.90	993275	16.27	967970	18.52

**IS 1** = 1,4-Dichlorobenzene-d4

IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.



## Semivolatile Surrogate Recovery Summary

Job Number: M96225

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Method: SW846 8270C Matrix: SO

### Samples and QC shown here apply to the above method

Lab	Lab						
Sample ID	File ID	S1	S2	<b>S3</b>	<b>S4</b>	S5	<b>S6</b>
M96225-1	S19788.D	61.0	70.0	38.0	65.0	77.0	100.0
M96225-1	S19774.D	55.0	63.0	49.0	60.0	70.0	72.0
M96225-2	S19775.D	65.0	66.0	84.0	59.0	75.0	69.0
M96225-3	S19776.D	72.0	70.0	57.0	73.0	88.0	94.0
M96225-4	S19777.D	62.0	62.0	82.0	60.0	72.0	69.0
M96225-5	S19778.D	66.0	67.0	83.0	66.0	76.0	71.0
M96225-6	S19779.D	59.0	61.0	72.0	50.0	64.0	40.0
M96225-7	S19780.D	66.0	67.0	88.0	65.0	77.0	72.0
M96225-8	S19781.D	61.0	62.0	77.0	56.0	70.0	61.0
OP23515-BS	S19764.D	69.0	72.0	84.0	70.0	76.0	96.0
OP23515-BSD	S19765.D	62.0	66.0	77.0	63.0	70.0	86.0
OP23515-MB	S19763.D	60.0	63.0	64.0	62.0	67.0	86.0
OP23515-MS	S19766.D	62.0	64.0	82.0	56.0	68.0	84.0
OP23515-MSD	S19767.D	55.0	56.0	77.0	51.0	63.0	75.0

Recovery Limits

### Surrogate Compounds

S1 = 2-Fluorophenol	30-130%
S2 = Phenol-d5	30-130%
S3 = 2,4,6-Tribromophenol	30-130%
S4 = Nitrobenzene-d5	30-130%
S5 = 2-Fluorobiphenyl	30-130%
S6 = Terphenyl-d14	30-130%





## GC Volatiles

## QC Data Summaries

## Includes the following where applicable:

- · Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries



Method: MADEP VPH REV 1.1

## **Method Blank Summary**

Job Number: M96225

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample GBH926-MB	File ID BH17783.D	<b>DF</b> 1	<b>Analyzed</b> 12/06/10	By AP	Prep Date n/a	Prep Batch n/a	Analytical Batch GBH926

### The QC reported here applies to the following samples:

CAS No.	Compound	Result	RL	Units Q
	C5- C8 Aliphatics (Unadj.) C9- C12 Aliphatics (Unadj.) C9- C10 Aromatics (Unadj.) C5- C8 Aliphatics C9- C12 Aliphatics	ND ND ND ND	5000 5000 5000 5000 5000	ug/kg ug/kg ug/kg ug/kg ug/kg

CAS No.	Surrogate Recoveries		Limits
615-59-8	2,5-Dibromotoluene	82%	70-130%
615-59-8	2,5-Dibromotoluene	77%	70-130%



Method: MADEP VPH REV 1.1

## **Method Blank Summary**

Job Number: M96225

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample GBH929-MB	File ID BH17817.D	<b>DF</b> 1	<b>Analyzed</b> 12/07/10	By WS	<b>Prep Date</b> n/a	Prep Batch n/a	<b>Analytical Batch</b> GBH929

The QC reported here applies to the following samples:

M96225-7

Q

CAS No.	Surrogate Recoveries		Limits
615-59-8	2,5-Dibromotoluene	72%	70-130%
615-59-8	2,5-Dibromotoluene	70%	70-130%



Method: MADEP VPH REV 1.1

## Blank Spike/Blank Spike Duplicate Summary

Job Number: M96225

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBH926-BSP	BH17784.D	12/06/10	AP	n/a	n/a	GBH926
GBH926-BSD	BH17785.D	12/06/10	AP	n/a	n/a	GBH926

### The QC reported here applies to the following samples:

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
	C5- C8 Aliphatics (Unadj.)	7500	5550	74	5590	75	1	70-130/25
	C9- C12 Aliphatics (Unadj.)	7500	8220	110	8300	111	1	70-130/25
	C9- C10 Aromatics (Unadj.)	2500	2520	101	2550	102	1	70-130/25

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
615-59-8	2,5-Dibromotoluene	101%	107%	70-130%
615-59-8	2,5-Dibromotoluene	96%	102%	70-130%



Method: MADEP VPH REV 1.1

# 2.2

## Blank Spike/Blank Spike Duplicate Summary

Job Number: M96225

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample         File ID           GBH929-BSP1         BH17820           GBH929-BSD1         BH17819		<b>Analyzed</b> 12/07/10 12/07/10	By WS WS	Prep Date n/a n/a	Prep Batch n/a n/a	Analytical Batch GBH929 GBH929
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The QC reported here applies to the following samples:

M96225-7

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
	C5- C8 Aliphatics (Unadj.)	7500	5540	74	5650	75	2	70-130/25
	C9- C12 Aliphatics (Unadj.)	7500	8160	109	8220	110	1	70-130/25
	C9- C10 Aromatics (Unadj.)	2500	2620	105	2600	104	1	70-130/25

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
615-59-8	2,5-Dibromotoluene	83%	93%	70-130%
615-59-8	2,5-Dibromotoluene	80%	89%	70-130%



Method: MADEP VPH REV 1.1

# 7.3.1

## Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96225

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

File ID	DF	Analyzed	By	Prep Date	Prep Batch	<b>Analytical Batch</b>
BH17841.D	1	12/08/10	WS	n/a	n/a	GBH929
BH17842.D	1	12/08/10	WS	n/a	n/a	GBH929
BH17840.D	1	12/08/10	WS	n/a	n/a	GBH929
	BH17841.D BH17842.D	File ID         DF           BH17841.D         1           BH17842.D         1           BH17840.D         1	BH17841.D 1 12/08/10 BH17842.D 1 12/08/10	BH17841.D 1 12/08/10 WS BH17842.D 1 12/08/10 WS	BH17841.D 1 12/08/10 WS n/a BH17842.D 1 12/08/10 WS n/a	BH17841.D 1 12/08/10 WS n/a n/a BH17842.D 1 12/08/10 WS n/a n/a

The QC reported here applies to the following samples:

M96225-7

		I	M96285	-3	Spike	MS	MS	MSD	MSD		Limits
CAS No.	Compound	1	ug/kg	Q	ug/kg	ug/kg	%	ug/kg	%	RPD	Rec/RPD

CAS No.	Surrogate Recoveries	MS	MSD	M96285-3	Limits
615-59-8	2,5-Dibromotoluene	125%	122%	109%	70-130%
615-59-8	2.5-Dibromotoluene	122%	118%	104%	70-130%

## **Volatile Surrogate Recovery Summary**

Job Number: M96225

**Account:** HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Method: MADEP VPH REV 1.1 Matrix: SO

### Samples and QC shown here apply to the above method

Lab	Lab		
Sample ID	File ID	<b>S1</b> a	<b>S1</b> b
M96225-1	BH17792.D	96.0	89.0
M96225-2	BH17822.D	62.0* <sup>c</sup>	56.0* <sup>c</sup>
M96225-2	BH17793.D	70.0	66.0* <sup>c</sup>
M96225-3	BH17821.D	64.0* <sup>c</sup>	58.0* c
M96225-3	BH17794.D	72.0	63.0* c
M96225-4	BH17795.D	103.0	95.0
M96225-5	BH17796.D	92.0	84.0
M96225-6	BH17797.D	100.0	93.0
M96225-7	BH17823.D	77.0	72.0
M96225-8	BH17799.D	121.0	110.0
GBH926-BSD	BH17785.D	107.0	102.0
GBH926-BSP	BH17784.D	101.0	96.0
GBH926-MB	BH17783.D	82.0	77.0
GBH929-BSD1	BH17819.D	93.0	89.0
GBH929-BSP1	BH17820.D	83.0	80.0
GBH929-MB	BH17817.D	72.0	70.0
M96285-3MS	BH17841.D	125.0	122.0
M96285-3MSD	BH17842.D	122.0	118.0

Surrogate Recovery Compounds Limits

S1 = 2,5-Dibromotoluene 70-130%

- (a) Recovery from GC signal #1
- (b) Recovery from GC signal #2
- (c) Outside control limits due to possible matrix interference. Confirmed by reanalysis.





## GC Semi-volatiles

## QC Data Summaries

## Includes the following where applicable:

- · Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries



Method: MADEP EPH REV 1.1

## **Method Blank Summary**

Job Number: M96225

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	<b>DF</b>	<b>Analyzed</b> 12/07/10	By	Prep Date	Prep Batch	Analytical Batch
OP23506-MB	BI2592.D	1		JD	12/02/10	OP23506	GBI98

### The QC reported here applies to the following samples:

CAS No.	Compound	Result	RL	Units Q
	C11-C22 Aromatics (Unadj.)	ND	18000	ug/kg
	C9-C18 Aliphatics	ND	9000	ug/kg
	C19-C36 Aliphatics	ND	9000	ug/kg
	C11-C22 Aromatics	ND	18000	ug/kg

CAS No.	<b>Surrogate Recoveries</b>	te Recoveries			
84-15-1	o-Terphenyl	74%	40-140%		
321-60-8	2-Fluorobiphenyl	85%	40-140%		
580-13-2	2-Bromonaphthalene	51%	40-140%		
3386-33-2	1-Chlorooctadecane	52%	40-140%		



Method: MADEP EPH REV 1.1

## Blank Spike/Blank Spike Duplicate Summary

Job Number: M96225

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample OP23506-BS OP23506-BSD	File ID BI2590.D BI2591.D	<b>DF</b> 1 1	<b>Analyzed</b> 12/07/10 12/07/10	By JD JD	Prep Date 12/02/10 12/02/10	Prep Batch OP23506 OP23506	Analytical Batch GBI98 GBI98

#### The QC reported here applies to the following samples:

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
	C11-C22 Aromatics (Unadj.)	71900	68400	95 a	76100	106 a	11	40-140/25
	C9-C18 Aliphatics	27000	12200	45	11000	41	10	40-140/25
	C19-C36 Aliphatics	36000	20400	57	19900	55	2	40-140/25

CAS No.	<b>Surrogate Recoveries</b>	BSP	BSD	Limits	
84-15-1	o-Terphenyl	76%	86%	40-140%	
321-60-8	2-Fluorobiphenyl	85%	97%	40-140%	
580-13-2	2-Bromonaphthalene	64%	67%	40-140%	
3386-33-2	1-Chlorooctadecane	44%	44%	40-140%	
Sample	Compound	Col #1	Col #2	Breakthrough	

Sample	Compound	Col #1	Col #2	Breakthrough Limit		
OP23506-BS	2-Methylnaphthalene	2430	270	10.0%*	5.0	
OP23506-BS	Naphthalene	2060	381	15.6%*	5.0	
OP23506-BSD	2-Methylnaphthalene	2470	456	15.6%*	5.0	
OP23506-BSD	Naphthalene	2090	567	21.3%*	5.0	

<sup>(</sup>a) Aromatic breakthrough (naphthalene and/or 2-methylnaphthalene) exceeded 5% method limit. Results confirmed by refractionation.



Method: MADEP EPH REV 1.1

## Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96225

Account: HALEYALD Haley & Aldrich

Project: Former Energy International Parcel, MA

Sample OP23506-MS	File ID BI2548.D	<b>DF</b>	<b>Analyzed</b> 12/04/10	By JD	<b>Prep Date</b> 12/02/10	Prep Batch OP23506	Analytical Batch GBI96
OP23506-MSD	BI2549.D	1	12/04/10	JD	12/02/10	OP23506	GBI96
M96225-8	BI2558.D	1	12/05/10	JD	12/02/10	OP23506	GBI96

#### The QC reported here applies to the following samples:

CAS No.	Compound	M96225-8 ug/kg Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
	C11-C22 Aromatics (Unadj.)	494000	95600	745000	263* a	684000	203* a	9	40-140/25
	C9-C18 Aliphatics	31500	35900	65000	93	66500	100	2	40-140/25
	C19-C36 Aliphatics	123000	47800	170000	98	160000	79	6	40-140/25

CAS No.	Surrogate Recoveries	MS	MSD	M96225-8	Limits
84-15-1	o-Terphenyl	154% * b	156% * b	128%	40-140%
321-60-8	2-Fluorobiphenyl	89%	93%	91%	40-140%
580-13-2	2-Bromonaphthalene	86%	72%	88%	40-140%
3386-33-2	1-Chlorooctadecane	56%	60%	51%	40-140%

- (a) Outside control limits due to high level in sample relative to spike amount.
- (b) Outside control limits due to matrix interference. Confirmed by reanalysis.



## **Semivolatile Surrogate Recovery Summary**

**Job Number:** M96225

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Method: MADEP EPH REV 1.1 Matrix: SO

#### Samples and QC shown here apply to the above method

Lab	Lab				
Sample ID	File ID	<b>S1</b> <sup>a</sup>	<b>S2</b> a	S3 a	<b>S4</b> <sup>b</sup>
M96225-1	BI2550.D	142.0* <sup>c</sup>	73.0	42.0	70.0
M96225-2	BI2552.D	98.0	103.0	99.0	51.0
M96225-3	BI2553.D	318.0* <sup>c</sup>	88.0	72.0	71.0
M96225-4	BI2554.D	80.0	98.0	94.0	44.0
M96225-5	BI2555.D	127.0	96.0	78.0	66.0
M96225-6	BI2556.D	56.0	110.0	86.0	11.0* d
M96225-7	BI2557.D	135.0	93.0	61.0	76.0
M96225-8	BI2558.D	128.0	91.0	88.0	51.0
OP23506-BS	BI2590.D	76.0	85.0	64.0	44.0
OP23506-BSD	BI2591.D	86.0	97.0	67.0	44.0
OP23506-MB	BI2592.D	74.0	85.0	51.0	52.0
OP23506-MS	BI2548.D	154.0* e	89.0	86.0	56.0
OP23506-MSD	BI2549.D	156.0* e	93.0	72.0	60.0

# Surrogate Recovery Compounds Limits

S1 = o-Terphenyl	40-140%
S2 = 2-Fluorobiphenyl	40-140%
S3 = 2-Bromonaphthalene	40-140%
<b>S4</b> = 1-Chlorooctadecane	40-140%

- (a) Recovery from GC signal #1
- (b) Recovery from GC signal #2
- (c) Outside control limits due to possible matrix interference.
- (d) Outside control limits due to possible matrix interference. Confirmed by refractionation.
- (e) Outside control limits due to matrix interference. Confirmed by reanalysis.





## Metals Analysis

## QC Data Summaries

## Includes the following where applicable:

- · Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries



#### BLANK RESULTS SUMMARY Part 2 - Method Blanks

# Login Number: M96225 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16325 Matrix Type: SOLID Methods: SW846 6010C Units: mg/kg

Prep Date:

12/01/10

Metal	RL	IDL	MDL	MB raw	final
Aluminum	20	1.5	1.5	14*	111101
Antimony	1.0	.09	.12	-0.020	<1.0
Arsenic	1.0		.13	-0.020	<1.0
		.1			
Barium	5.0	.042	.2	0.18	<5.0
Beryllium	0.40	.014	.015	0.0	<0.40
Boron	10	.033	.12		
Cadmium	0.40	.011	.017	-0.010	<0.40
Calcium	500	2.3	2.3		
Chromium	1.0	.047	.047	0.020	<1.0
Cobalt	5.0	.017	.017		
Copper	2.5	.086	.15		
Gold	5.0	.16	.16		
Iron	10	.39	.54		
Lead	1.0	.15	.15	-0.020	<1.0
Magnesium	500	3.7	4.2		
Manganese	1.5	.011	.092		
Molybdenum	10	.021	.026		
Nickel	4.0	.021	.028	-0.010	<4.0
Palladium	5.0	.24	.24		
Platinum	5.0	.73	.73		
Potassium	500	2.9	3.6		
Selenium	1.0	.11	.19	0.15	<1.0
Silicon	10	.12	.47		
Silver	0.50	.06	.06	0.010	<0.50
Sodium	500	1.5	4.2		
Strontium	1.0	.013	.015		
Thallium	1.0	.07	.12	0.090	<1.0
Tin	10	.036	.036		
Titanium	5.0	.057	.057		
Tungsten	10	.48	.57		
Vanadium	1.0	.073		-0.020	<1.0
			.073		
Zinc	2.0	.024	.28	0.17	<2.0

Associated samples MP16325: M96225-1, M96225-2, M96225-3, M96225-4, M96225-5, M96225-6, M96225-7

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#### BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: M96225
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16325 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

#### MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

# Login Number: M96225 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

12/01/10

QC Batch ID: MP16325 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date:

Palladium
Platinum
Potassium
Selenium

Silicon Silver

Sodium
Strontium
Thallium

Tin
Titanium
Tungsten
Vanadium

Zinc

0.97

0.30

0.0

24.6

145

37.4

16.2

35.7

63.7

183

41.9

16.8

41.9

41.9

41.9

87.0

94.9

85.2

93.4

75-125 0.97

75-125 0.30

75-125 0.0

75-125 24.6

1.1

0.28

0.14

26.1

143

12.6

6.9

5.9

200.0(d) 0-20

1.4 0-20

0-20

0-20

0-20

12/01/10

Metal	M96199-5 Original		Spikelot MPICP	% Rec	QC Limits	M96199-5 Original	DUP	RPD	QC Limits
Aluminum									
Antimony	2.4	17.3	41.9	35.6 (a)	75-125	2.4	1.4	52.6 (c)	0-20
Arsenic	18.9	56.7	41.9	90.3	75-125	18.9	18.3	3.2	0-20
Barium	198	273	168	44.8 (a)	75-125	198	115	53.0 (c)	0-20
Beryllium	0.65	35.1	41.9	82.3	75-125	0.65	0.63	3.1	0-20
Boron									
Cadmium	0.54	40.0	41.9	94.2	75-125	0.54	0.51	5.7	0-20
Calcium									
Chromium	17.6	50.8	41.9	79.3	75-125	17.6	15.6	12.0	0-20
Cobalt									
Copper									
Gold									
Iron									
Lead	912	965	83.8	63.3 (b)	75-125	912	940	3.0	0-20
Magnesium									
Manganese									
Molybdenum									
Nickel	15.4	52.6	41.9	88.8	75-125	15.4	15.2	1.3	0-20

Associated samples MP16325: M96225-1, M96225-2, M96225-3, M96225-4, M96225-5, M96225-6, M96225-7

90.7 75-125 145



#### MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: M96225
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16325 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date:

Metal

 ${\tt Results} \, < \, {\tt IDL} \, \, {\tt are } \, \, {\tt shown} \, \, {\tt as } \, \, {\tt zero} \, \, \, {\tt for } \, \, {\tt calculation} \, \, {\tt purposes} \, \,$ 

- (\*) Outside of QC limits
- (N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

- (a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity. Post spike is not within acceptable range.
- (b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- (c) High RPD due to possible matrix interference and/or sample non-homogeneity.
- (d) RPD acceptable due to low duplicate and sample concentrations.



# Login Number: M96225 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16325 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date: 12/01/10 12/01/10

TICP DUCC.			12/01/10					12/01/10	
Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	BSD Result	Spikelot MPICP	% Rec	BSD RPD	QC Limit
Aluminum									
Antimony	50.2	50	100.4	80-120	49.5	50	99.0	1.4	20
Arsenic	50.5	50	101.0	80-120	49.4	50	98.8	2.2	20
Barium	184	200	92.0	80-120	182	200	91.0	1.1	20
Beryllium	45.5	50	91.0	80-120	45.4	50	90.8	0.2	20
Boron									
Cadmium	51.8	50	103.6	80-120	50.8	50	101.6	1.9	20
Calcium									
Chromium	49.4	50	98.8	80-120	49.3	50	98.6	0.2	20
Cobalt									
Copper									
Gold									
Iron									
Lead	98.1	100	98.1	80-120	96.7	100	96.7	1.4	20
Magnesium									
Manganese									
Molybdenum									
Nickel	50.8	50	101.6	80-120	50.0	50	100.0	1.6	20
Palladium									
Platinum									
Potassium									
Selenium	50.7	50	101.4	80-120	49.9	50	99.8	1.6	20
Silicon									
Silver	20.6	20	103.0	80-120	20.8	20	104.0	1.0	20
Sodium									
Strontium									
Thallium	51.3	50	102.6	80-120	50.3	50	100.6	2.0	20
Tin									
Titanium									
Tungsten									
Vanadium	51.4	50	102.8	80-120	51.5	50	103.0	0.2	20
Zinc	50.2	50	100.4	80-120	49.2	50	98.4	2.0	20

Associated samples MP16325: M96225-1, M96225-2, M96225-3, M96225-4, M96225-5, M96225-6, M96225-7



Login Number: M96225
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16325 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

# Login Number: M96225 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16325 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date: 12/01/10

Trep bace.			12/01/10	
Metal	LCS Result	Spikelot MPLCS70		QC Limits
Aluminum				
Antimony	80.9	121	66.9	8-219
Arsenic	105	109	96.3	83-117
Barium	279	325	85.8	83-117
Beryllium	80.5	92.1	87.4	84-116
Boron				
Cadmium	111	110	100.9	81-119
Calcium				
Chromium	86.0	93.4	92.1	81-120
Cobalt				
Copper				
Gold				
Iron				
Lead	139	152	91.4	79-121
Magnesium				
Manganese				
Molybdenum				
Nickel	108	109	99.1	81-118
Palladium				
Platinum				
Potassium				
Selenium	201	207	97.1	79-120
Silicon				
Silver	52.3	51.9	100.8	66-134
Sodium				
Strontium				
Thallium	167	171	97.7	78-122
Tin				
Titanium				
Tungsten				
Vanadium	105	110	95.5	77-124
Zinc	279	299	93.3	82-118

Associated samples MP16325: M96225-1, M96225-2, M96225-3, M96225-4, M96225-5, M96225-6, M96225-7

Login Number: M96225
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16325 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

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# SERIAL DILUTION RESULTS SUMMARY

# Login Number: M96225 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16325 Methods: SW846 6010C Matrix Type: SOLID Units: ug/l

Prep Date: 12/01/10

Metal	M96199-5 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony	27.9	24.3	12.9 (a)	0-10
Arsenic	223	242	8.3	0-10
Barium	2350	2440	3.7	0-10
Beryllium	7.70	7.90	2.6	0-10
Boron				
Cadmium	6.40	6.60	3.1	0-10
Calcium				
Chromium	208	231	11.1 (b)	0-10
Cobalt				
Copper				
Gold				
Iron				
Lead	10800	11900	9.8	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel	183	203	11.2 (b)	0-10
Palladium				
Platinum				
Potassium				
Selenium	11.5	15.1	31.3 (a)	0-10
Silicon				
Silver	3.50	4.60	31.4 (a)	0-10
Sodium				
Strontium				
Thallium	0.00	0.00	NC	0-10
Гin				
Titanium				
Tungsten				
Vanadium	291	316	8.7	0-10
Zinc	1720	1950	13.3 (b)	0-10

Associated samples MP16325: M96225-1, M96225-2, M96225-3, M96225-4, M96225-5, M96225-6, M96225-7

# SERIAL DILUTION RESULTS SUMMARY

Login Number: M96225
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16325 Methods: SW846 6010C Matrix Type: SOLID Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

- (a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- (b) Serial dilution indicates possible matrix interference.

(C

Login Number: M96225
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

Prep Date: 12/01/10

Prep Date:									12/01/10	)
Metal	Sample ml	Final ml	M96199-5 Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limit
Aluminum										
Antimony	9.9	10.1	27.9	27.34752	84.6	.1	5	49.50495	115.7	-
Arsenic										
Barium	9.9	10.1	2350	2303.465	5911	.1	470	4653.465	77.5	-
Beryllium										
Boron										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Gold										
Iron										
Lead										
Magnesium										
Manganese										
Molybdenum										
Nickel										
Palladium										
Platinum										
Potassium										
Selenium										
Silicon										
Silver										
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Tungsten										
Vanadium										
Zinc										

Associated samples MP16325: M96225-1, M96225-2, M96225-3, M96225-4, M96225-5, M96225-6, M96225-7

\_\_\_\_\_

Login Number: M96225
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16325 Methods: SW846 6010C Matrix Type: SOLID Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (\*\*) Corr. sample result = Raw \* (sample volume / final volume) (anr) Analyte not requested

#### BLANK RESULTS SUMMARY Part 2 - Method Blanks

# Login Number: M96225 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16330 Matrix Type: SOLID

Methods: SW846 6010C

Units: mg/kg

Prep Date:

12/02/10

				MB	
Metal	RL	IDL	MDL	raw	final
Aluminum	20	1.5	1.5		
Antimony	1.0	.09	.12	0.0	<1.0
Arsenic	1.0	.1	.13	-0.040	<1.0
Barium	5.0	.042	. 2	0.20	<5.0
Beryllium	0.40	.014	.015	0.010	<0.40
Boron	10	.033	.12		
Cadmium	0.40	.011	.017	0.010	<0.40
Calcium	500	2.3	2.3		
Chromium	1.0	.047	.047	0.050	<1.0
Cobalt	5.0	.017	.017		
Copper	2.5	.086	.15		
Gold	5.0	.16	.16		
Iron	10	.39	.54		
Lead	1.0	.15	.15	0.050	<1.0
Magnesium	500	3.7	4.2		
Manganese	1.5	.011	.092		
Molybdenum	10	.021	.026		
Nickel	4.0	.021	.028	0.010	<4.0
Palladium	5.0	.24	.24		
Platinum	5.0	.73	.73		
Potassium	500	2.9	3.6		
Selenium	1.0	.11	.19	0.040	<1.0
Silicon	10	.12	.47		
Silver	0.50	.06	.06	0.0	<0.50
Sodium	500	1.5	4.2		
Strontium	1.0	.013	.015		
Thallium	1.0	.07	.12	0.040	<1.0
Tin	10	.036	.036		
Titanium	5.0	.057	.057		
Tungsten	10	.48	.57		
Vanadium	1.0	.073	.073	-0.010	<1.0
Zinc	2.0	.024	.28	0.10	<2.0

Associated samples MP16330: M96225-8



#### BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: M96225
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16330 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

# MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: M96225
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16330 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date: 12/02/10 12/02/10

Prep Date:				12/02/10				12/02/10	
Metal	M96225-8 Original		Spikelot MPICP	% Rec	QC Limits	M96225-8 Original		RPD	QC Limits
Aluminum									
Antimony	0.52	20.5	51.2	39.0 (a)	75-125	0.52	0.22	81.1 (b)	0-20
Arsenic	7.8	52.9	51.2	88.1	75-125	7.8	7.9	1.3	0-20
Barium	165	363	205	96.6	75-125	165	169	2.4	0-20
Beryllium	0.50	45.5	51.2	87.9	75-125	0.50	0.53	5.8	0-20
Boron									
Cadmium	0.25	47.1	51.2	91.5	75-125	0.25	0.25	0.0	0-20
Calcium									
Chromium	20.6	64.7	51.2	86.1	75-125	20.6	19.6	5.0	0-20
Cobalt									
Copper									
Gold									
Iron									
Lead	338	374	102	35.1 (a)	75-125	338	302	11.3	0-20
Magnesium									
Manganese									
Molybdenum									
Nickel	15.5	58.5	51.2	84.0	75-125	15.5	14.7	5.3	0-20
Palladium									
Platinum									
Potassium									
Selenium	0.84	42.8	51.2	81.9	75-125	0.84	0.81	3.6	0-20
Silicon									
Silver	0.77	20.2	20.5	94.8	75-125	0.77	0.76	1.3	0-20
Sodium									
Strontium									
Thallium	0.0	43.5	51.2	84.9	75-125	0.0	0.0	NC	0-20
Tin									
Titanium									
Tungsten									
Vanadium	27.0	73.5	51.2	90.8	75-125	27.0	27.1	0.4	0-20
Zinc	198	243	51.2	87.9	75-125	198	200	1.0	0-20

Associated samples MP16330: M96225-8



# MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: M96225
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16330 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes

- (\*) Outside of QC limits
- (N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

- (a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity. Post spike within acceptable range.
- (b) RPD acceptable due to low duplicate and sample concentrations.



# Login Number: M96225 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16330 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date: 12/02/10 12/02/10

Prep Date:			12/02/10					12/02/10		
Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	BSD Result	Spikelot MPICP	% Rec	BSD RPD	QC Limit	
Aluminum										
Antimony	46.8	50	93.6	80-120	47.1	50	94.2	0.6	20	
Arsenic	47.8	50	95.6	80-120	47.9	50	95.8	0.2	20	
Barium	192	200	96.0	80-120	192	200	96.0	0.0	20	
Beryllium	48.2	50	96.4	80-120	47.8	50	95.6	0.8	20	
Boron										
Cadmium	49.5	50	99.0	80-120	49.8	50	99.6	0.6	20	
Calcium										
Chromium	48.9	50	97.8	80-120	48.6	50	97.2	0.6	20	
Cobalt										
Copper										
Gold										
Iron										
Lead	92.9	100	92.9	80-120	93.2	100	93.2	0.3	20	
Magnesium										
Manganese										
Molybdenum										
Nickel	48.2	50	96.4	80-120	48.5	50	97.0	0.6	20	
Palladium										
Platinum										
Potassium										
Selenium	47.8	50	95.6	80-120	48.0	50	96.0	0.4	20	
Silicon										
Silver	20.5	20	102.5	80-120	20.3	20	101.5	1.0	20	
Sodium										
Strontium										
Thallium	48.8	50	97.6	80-120	48.8	50	97.6	0.0	20	
Tin										
Titanium										
Tungsten										
Vanadium	48.5	50	97.0	80-120	48.3	50	96.6	0.4	20	
Zinc	47.9	50	95.8	80-120	48.1	50	96.2	0.4	20	

Associated samples MP16330: M96225-8

Login Number: M96225
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16330 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

# Login Number: M96225 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16330 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date: 12/02/10

Metal	LCS Result	Spikelot MPLCS70		QC Limits
Aluminum				
Antimony	95.4	121	78.8	8-219
Arsenic	103	109	94.5	83-117
Barium	315	325	96.9	83-117
Beryllium			96.7	84-116
Boron				
Cadmium	111	110	100.9	81-119
Calcium				
Chromium	88.1	93.4	94.3	81-120
Cobalt				
Copper				
Gold				
Iron				
Lead	137	152	90.1	79-121
Magnesium				
Manganese				
Molybdenum				
Nickel	108	109	99.1	81-118
Palladium				
Platinum				
Potassium				
Selenium	197	207	95.2	79-120
Silicon				
Silver	54.1	51.9	104.2	66-134
Sodium				
Strontium				
Thallium	166	171	97.1	78-122
Tin				
Titanium				
Tungsten				
Vanadium	102	110	92.7	77-124
Zinc	280	299	93.6	82-118

Associated samples MP16330: M96225-8

Login Number: M96225
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16330 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

# SERIAL DILUTION RESULTS SUMMARY

# Login Number: M96225 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16330 Methods: SW846 6010C Matrix Type: SOLID Units: ug/l

Prep Date: 12/02/10

Metal	M96225-8 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony	5.10	4.50	11.8 (a)	0-10
Arsenic	75.9	80.4	5.9	0-10
Barium	1610	1710	6.1	0-10
Beryllium	4.90	5.30	8.2	0-10
Boron				
Cadmium	2.40	2.30	4.2	0-10
Calcium				
Chromium	201	217	7.8	0-10
Cobalt				
Copper				
Gold				
Iron				
Lead	3300	3600	9.0	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel	151	166	9.6	0-10
Palladium				
Platinum				
Potassium				
Selenium	8.20	8.80	7.3	0-10
Silicon				
Silver	7.50	7.70	2.7	0-10
Sodium				
Strontium				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Tungsten				
Vanadium	264	283	7.1	0-10
Zinc	1930	2150	11.3 (b)	0-10

Associated samples MP16330: M96225-8

# SERIAL DILUTION RESULTS SUMMARY

Login Number: M96225
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16330 Methods: SW846 6010C Matrix Type: SOLID Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

- (a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- (b) Serial dilution indicates possible matrix interference.

c

Login Number: M96225 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

Prep Date: 12/02/10

Prep Date.										12/02/10				
Metal	Sample ml	Final ml	M96225- Raw	8 Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits				
Aluminum														
Antimony	9.9	10	5.1	5.049	24.1	.1	2	20	95.3	-				
Arsenic														
Barium														
Beryllium														
Boron														
Cadmium														
Calcium														
Chromium														
Cobalt														
Copper														
Gold														
Iron														
Lead														
Magnesium														
Manganese														
Molybdenum														
Nickel														
Palladium														
Platinum														
Potassium														
Selenium														
Silicon														
Silver														
Sodium														
Strontium														
Thallium														
Tin														
Titanium														
Tungsten														
Vanadium														
Zinc														

Associated samples MP16330: M96225-8

Login Number: M96225
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16330 Methods: SW846 6010C Matrix Type: SOLID Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (\*\*) Corr. sample result = Raw \* (sample volume / final volume) (anr) Analyte not requested

Login Number: M96225 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16330 Methods: SW846 6010C Matrix Type: SOLID Units: ug/l

Prep Date: 12/02/10

Metal	Sample ml	Final ml	M96225-8 Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Boron										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Gold										
Iron										
Lead	9.9	10	3303	3269.97	8789	.1	660	6600	83.6	-
Magnesium										
Manganese										
Molybdenum										
Nickel										
Palladium										
Platinum										
Potassium										
Selenium										
Silicon										
Silver										
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Tungsten										
Vanadium										
Zinc										

Associated samples MP16330: M96225-8



Login Number: M96225
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16330 Methods: SW846 6010C Matrix Type: SOLID Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (\*\*) Corr. sample result = Raw \* (sample volume / final volume) (anr) Analyte not requested

# BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: M96225

Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16331 Methods: SW846 7471A Matrix Type: SOLID Units: mg/kg

Prep Date: 12/03/10

Associated samples MP16331: M96225-1, M96225-2, M96225-3

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits  $\begin{tabular}{ll} \end{tabular}$ 

(anr) Analyte not requested

#### MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: M96225 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16331 Methods: SW846 7471A Matrix Type: SOLID Units: mg/kg

12/03/10 12/03/10 Prep Date:

Metal	M96199-5 Original D	OUP	RPD	QC Limits	M96199-5 Original		Spikelot HGRWS1	% Rec	QC Limits
Mercury	0.53 0	0.65	20.3 (a)	0-20	0.53	1.2	0.518	129.3(b)	75-125

Associated samples MP16331: M96225-1, M96225-2, M96225-3

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits  $\hfill \hfill$ 

- (N) Matrix Spike Rec. outside of QC limits  $\,$

(anr) Analyte not requested

- (a) High RPD due to possible matrix interference and/or sample non-homogeneity.
- (b) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

Login Number: M96225 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16331 Methods: SW846 7471A Matrix Type: SOLID Units: mg/kg

12/03/10

Metal	BSP Result	Spikelot HGRWS1		QC Limits	BSD Result	Spikelot HGRWS1		BSD RPD	QC Limit
Mercury	0.47	0.5	94.0	80-120	0.47	0.5	94.0	0.0	30

12/03/10

Associated samples MP16331: M96225-1, M96225-2, M96225-3

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits  $\begin{tabular}{ll} \end{tabular}$ 

(anr) Analyte not requested

Prep Date:

Login Number: M96225 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16331 Methods: SW846 7471A Matrix Type: SOLID Units: mg/kg

12/03/10 Prep Date:

Associated samples MP16331: M96225-1, M96225-2, M96225-3

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits  $\begin{tabular}{ll} \end{tabular}$ 

(anr) Analyte not requested

#### BLANK RESULTS SUMMARY Part 2 - Method Blanks

# Login Number: M96225 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16339 Methods: SW846 6010C Matrix Type: LEACHATE Units:  $\mbox{mg/l}$ 

Prep Date: 12/07/10

Metal	RL	IDL	MDL	MB raw	final
Aluminum	0.20	.015	.015		
Antimony	0.0060	.0009	.0012		
Arsenic	0.010	.001	.0019		
Barium	0.50	.00042	.0037		
Beryllium	0.0040	.00014	.0002		
Boron	0.10	.00033	.0015		
Cadmium	0.0040	.00011	.00012		
Calcium	5.0	.023	.039		
Chromium	0.010	.00047	.00053		
Cobalt	0.050	.00017	.00028		
Copper	0.025	.00086	.00086		
Gold	0.050	.0016	.0017		
Iron	0.10	.0039	.0041		
Lead	0.010	.0015	.0015	0.00040	<0.010
Magnesium	5.0	.037	.037		
Manganese	0.015	.00011	.0009		
Molybdenum	0.10	.00021	.00064		
Nickel	0.040	.00021	.0003		
Palladium	0.050	.0024	.0025		
Platinum	0.050	.0073	.0073		
Potassium	5.0	.029	.03		
Selenium	0.010	.0011	.0017		
Silicon	0.10	.0012	.0072		
Silver	0.0050	.0006	.0006		
Sodium	5.0	.015	.031		
Strontium	0.010	.00013	.00031		
Thallium	0.0050	.0007	.00074		
Tin	0.10	.00036	.00043		
Titanium	0.050	.00057	.00057		
Tungsten	0.10	.0048	.012		
Vanadium	0.010	.00073	.0011		
Zinc	0.10	.00024	.002		

Associated samples MP16339: M96225-8A

186 of 214
ACCUTEST
M96225
LABORATORIES

#### BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: M96225
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16339 Methods: SW846 6010C Matrix Type: LEACHATE Units:  $\mbox{mg/l}$ 

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

# MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: M96225 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16339 Methods: SW846 6010C Matrix Type: LEACHATE Units:  $\mbox{mg/l}$ 

Matrix Type:	LEACHATE				Unit	s: mg/l		
Prep Date:			12/07/10	)			12/07/1	0
Metal	M96225-8A Original MS	Spikelot MPICP	% Rec	QC Limits	M96225-8 Original		RPD	QC Limits
Aluminum								
Antimony								
Arsenic	anr							
Barium	anr							
Beryllium								
Boron								
Cadmium	anr							
Calcium								
Chromium	anr							
Cobalt								
Copper								
Gold								
Iron								
Lead	0.50 1.5	1.0	100.0	75-125	0.50	0.51	2.0	0-20
Magnesium								
Manganese								
Molybdenum								
Nickel	anr							
Palladium								
Platinum								
Potassium								
Selenium	anr							
Silicon								
Silver	anr							
Sodium								
Strontium								
Thallium								
Tin								
Titanium								
Tungsten								
Vanadium								
Zinc								

Associated samples MP16339: M96225-8A

# MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: M96225 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16339 Methods: SW846 6010C Matrix Type: LEACHATE Units: mg/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

Login Number: M96225 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16339 Methods: SW846 6010C Matrix Type: LEACHATE Units:  $\mbox{mg/l}$ 

Macrix Type.	DEACHALE					0111 0	5. mg/1		
Prep Date:			12/07/10					12/07/10	
Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	BSD Result	Spikelot MPICP	% Rec	BSD RPD	QC Limit
Aluminum									
Antimony									
Arsenic	anr								
Barium	anr								
Beryllium									
Boron									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt									
Copper									
Gold									
Iron									
Lead	0.95	1.0	95.0	80-120	0.94	1.0	94.0	1.1	20
Magnesium									
Manganese									
Molybdenum									
Nickel	anr								
Palladium									
Platinum									
Potassium									
Selenium	anr								
Silicon									
Silver	anr								
Sodium									
Strontium									
Thallium									
Tin									
Titanium									
Tungsten									
Vanadium									
Zinc									

Associated samples MP16339: M96225-8A

Login Number: M96225
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16339 Methods: SW846 6010C Matrix Type: LEACHATE Units:  $\mbox{mg/l}$ 

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

# SERIAL DILUTION RESULTS SUMMARY

# Login Number: M96225 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16339 Methods: SW846 6010C Matrix Type: LEACHATE Units: ug/l

Prep Date: 12/07/10

Metal	M96225-8 Original	A SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium	anr			
Beryllium				
Boron				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper				
Gold				
Iron				
Lead	503	520	3.4	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel	anr			
Palladium				
Platinum				
Potassium				
Selenium	anr			
Silicon				
Silver	anr			
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc				

Associated samples MP16339: M96225-8A

# SERIAL DILUTION RESULTS SUMMARY

Login Number: M96225
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16339 Methods: SW846 6010C Matrix Type: LEACHATE Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

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# BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: M96225
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16345 Methods: SW846 7471A Matrix Type: SOLID Units: mg/kg

Prep Date: 12/07/10

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.033	.0047	.0055	0.0058	<0.033

Associated samples MP16345: M96225-4, M96225-5, M96225-6, M96225-7, M96225-8

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

#### MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: M96225 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

12/07/10

QC Batch ID: MP16345 Methods: SW846 7471A Matrix Type: SOLID Units: mg/kg

Prep Date:		12	2/07/10		12/07/	10
Metal	M96225-8 Original MS	Spikelot HGRWS1 %	QC Rec Limits	M96225-8 Original DUP	RPD	QC Limits

1.8 2.6 0.545 146.8(a) 75-125 1.8 1.5 18.2 0-20 Mercury

12/07/10

Associated samples MP16345: M96225-4, M96225-5, M96225-6, M96225-7, M96225-8

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits  $\hfill \hfill$ 

- (N) Matrix Spike Rec. outside of QC limits
- (anr) Analyte not requested
- (a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.



Login Number: M96225 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16345 Matrix Type: SOLID

Methods: SW846 7471A Units: mg/kg

Prep Date:

12/07/10

12/07/10

Metal	BSP Result	Spikelot HGRWS1	% Rec	QC Limits	BSD Result	Spikelot HGRWS1	% Rec	BSD RPD	QC Limit
Mercury	0.50	0.5	100.0	80-120	0.51	0.5	102.0	2.0	30

Associated samples MP16345: M96225-4, M96225-5, M96225-6, M96225-7, M96225-8

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits  $\bar{\ }$ 

(anr) Analyte not requested



Login Number: M96225
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16345 Methods: SW846 7471A Matrix Type: SOLID Units: mg/kg

Prep Date: 12/07/10

Metal	LCS Result	Spikelot HGLCS69		QC Limits
Mercury	15.8	16.3	96.9	71-129

Associated samples MP16345: M96225-4, M96225-5, M96225-6, M96225-7, M96225-8

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits  $\bar{\ }$ 

(anr) Analyte not requested

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#### BLANK RESULTS SUMMARY Part 2 - Method Blanks

# Login Number: M96225 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16354 Methods: SW846 6010C Matrix Type: LEACHATE Units:  $\mbox{mg/l}$ 

Prep Date: 12/09/10

tal RL IDL MDL RE raw final minum 0.20 .015 .015 .015 .015 .016 .016 .0009 .0009 .0012 .0009 .0012 .0009 .0012 .0009 .0012 .0009 .0012 .0009 .0012 .0009 .00
timony 0.0060 .0009 .0012  senic 0.010 .001 .0019  rium 0.50 .00042 .0037  ryllium 0.0040 .00014 .0002  ron 0.10 .00033 .0015  dmium 0.0040 .00011 .00012  lcium 5.0 .023 .039  romium 0.010 .00047 .00053  boalt 0.050 .0016 .0007  on 0.10 .0039 .0041  and 0.050 .0016 .0017  on 0.10 .0039 .0041  and 0.010 .0015 .0015 0.0013 <0.010  genesium 5.0 .037 .037  aganese 0.015 .00011 .0009  lybdenum 0.10 .00021 .00064  ckel 0.040 .00021 .0003  lladium 0.050 .0024 .0025  atinum 0.050 .0073 .0073  tassium 5.0 .029 .03  lenium 0.010 .0011 .0017  licon 0.10 .0012 .0072  lver 0.0050 .0006 .0006  dium 5.0 .015 .031  rontium 0.010 .00013 .00031  allium 0.0050 .0007 .00074  a 0.10 .00036 .00043  tanium 0.050 .00077 .00074  a 0.10 .00036 .00043  tanium 0.050 .00057 .00057  agsten 0.10 .0048 .012  andium 0.010 .0010 .00073 .00011
senic 0.010 .001 .0019 rium 0.50 .00042 .0037 ryllium 0.0040 .00014 .0002 ron 0.10 .00033 .0015 dmium 0.0040 .00011 .00012 leium 5.0 .023 .039 romium 0.010 .00047 .00053 roalt 0.050 .00017 .00028 roper 0.025 .00086 .00086 ron 0.10 .0039 .0041 ron 0.10 .0039 .0041 ron 0.10 .0015 .0015 0.0013 <0.010 resium 5.0 .037 .037 reganese 0.015 .00011 .0009 reganese 0.015 .00011 .0009 reganese 0.010 .00021 .00064 rokel 0.040 .00021 .00064 rokel 0.040 .00021 .00064 rotatinum 0.050 .0073 .0073 rotatinum 0.010 .0011 .0017 rotation 0.10 .0012 .0072 rotatinum 0.010 .0013 .0006 rotatinum 5.0 .015 .031 rontium 0.010 .00013 .00031 rotatinum 0.050 .0006 .0006 rotatinum 0.010 .00013 .00031 rotatinum 0.010 .00013 .00031 rotatinum 0.010 .00013 .00074 rotatinum 0.010 .00013 .00031 rotatinum 0.050 .00077 .00074 rotatinum 0.010 .00036 .00043 rotatinum 0.050 .00057 .00057 rogsten 0.10 .0048 .012 rotatinum 0.050 .00057 .00057 rogsten 0.10 .0048 .012
rium 0.50 .00042 .0037  ryllium 0.0040 .00014 .0002  ron 0.10 .00033 .0015  dmium 0.0040 .00011 .00012  lcium 5.0 .023 .039  romium 0.010 .00047 .00053  boalt 0.050 .00017 .00028  roper 0.025 .00086 .00086  ld 0.050 .0016 .0017  ron 0.10 .0039 .0041  and 0.010 .0015 .0015 0.0013 <0.010  genesium 5.0 .037 .037  roganese 0.015 .00011 .0009  lybdenum 0.10 .00021 .00064  rokel 0.040 .00021 .0003  lladium 0.050 .0024 .0025  attinum 0.050 .0073 .0073  tassium 5.0 .029 .03  lenium 0.010 .0011 .0017  licon 0.10 .0012 .0072  lver 0.0050 .0006 .0006  rontium 0.010 .00013 .00031  allium 5.0 .015 .031  rontium 0.010 .00013 .00031  allium 0.050 .0007 .00074  rontium 0.010 .00013 .000043  tanium 0.050 .00057 .00057  rogsten 0.10 .0048 .012  roadium 0.010 .0018 .0012
ryllium 0.0040 .00014 .0002 ron 0.10 .00033 .0015 dmium 0.0040 .00011 .00012 leium 5.0 .023 .039 romium 0.010 .00047 .00053 romium 0.050 .00017 .00028 roper 0.025 .00086 .00086 ld 0.050 .0016 .0017 ron 0.10 .0039 .0041 add 0.010 .0015 .0015 0.0013 <0.010 add 0.010 .0015 .0015 0.0013 regarese 0.015 .00011 .0009 lybdenum 0.10 .00021 .00064 rokel 0.040 .00021 .0003 lladium 0.050 .0024 .0025 atinum 0.050 .0073 .0073 tassium 5.0 .029 .03 lenium 0.010 .0011 .0017 licon 0.10 .0012 .0072 liver 0.0050 .0006 .0006 dium 5.0 .015 .031 rontium 0.010 .00013 .00031 allium 0.0050 .0007 .00074 rontium 0.010 .00013 .00031 allium 0.050 .0007 .00074 rontium 0.010 .00017 .00074 rontium 0.010 .00017 .00074 rontium 0.050 .00057 .00057 rogsten 0.10 .0048 .012 rondium 0.010 .0048 .012 rondium 0.010 .00073 .00011
ron 0.10 .00033 .0015  dmium 0.0040 .00011 .00012  lcium 5.0 .023 .039  romium 0.010 .00047 .00053  balt 0.050 .00017 .00028  pper 0.025 .00086 .00086  ld 0.050 .0016 .0017  bm 0.10 .0039 .0041  add 0.010 .0015 .0015 0.0013 <0.010  add 0.010 .0015 .00016 0.0017  bm 0.10 .00021 .0009  lybdenum 0.10 .00021 .00064  ckel 0.040 .00021 .0003  lladium 0.050 .0024 .0025  atinum 0.050 .0073 .0073  tassium 5.0 .029 .03  lenium 0.010 .0011 .0017  licon 0.10 .0012 .0072  lver 0.0050 .0006 .0006  dium 5.0 .015 .031  rontium 0.010 .00013 .00031  allium 0.0050 .0007 .00074  allium 0.0050 .0007 .00074  allium 0.050 .0006 .0006  financium 0.010 .00013 .00031  allium 0.050 .0007 .00074  allium 0.050 .0007 .00074  allium 0.050 .0007 .00057  agsten 0.10 .0048 .012  madium 0.010 .0013 .00011
ledium 0.0040 .00011 .00012 ledium 5.0 .023 .039 romium 0.010 .00047 .00053 coalt 0.050 .00017 .00028 coper 0.025 .00086 .00086 ld 0.050 .0016 .0017 con 0.10 .0039 .0041 cad 0.010 .0015 .0015 0.0013 <0.010 cad 0.010 .0015 .0005 0.0014 cad 0.010 .00021 .0009 lybdenum 0.10 .00021 .00064 ckel 0.040 .00021 .0003 lladium 0.050 .0024 .0025 catinum 0.050 .0029 .03 lenium 0.010 .0011 .0017 licon 0.10 .0012 .0072 lycer 0.0050 .0006 .0006 ciium 5.0 .015 .031 rontium 0.010 .00013 .00031 callium 0.0050 .0007 .00074 callium 0.0050 .0007 .00074 callium 0.050 .00057 .00057 callium 0.050 .00057 .00057 callium 0.050 .00057 .00057 callium 0.010 .0018 .012 callium 0.050 .00067 .00057 callium 0.050 .00057 .00057 callium 0.050 .00057 .00057 callium 0.010 .00048 .012 callium 0.010 .00073 .00011
1
romium 0.010 .00047 .00053  balt 0.050 .00017 .00028  pper 0.025 .00086 .00086  ld 0.050 .0016 .0017  cm 0.10 .0039 .0041  ad 0.010 .0015 .0015 0.0013 <0.010  gnesium 5.0 .037 .037  aganese 0.015 .00011 .0009  lybdenum 0.10 .00021 .00064  ckel 0.040 .00021 .0003  lladium 0.050 .0024 .0025  atinum 0.050 .0073 .0073  tassium 5.0 .029 .03  lenium 0.010 .0011 .0017  licon 0.10 .0012 .0072  liver 0.0050 .0006 .0006  dium 5.0 .015 .031  rontium 0.010 .00013 .00031  allium 0.010 .00013 .00031  allium 0.0050 .0007 .00074  an 0.10 .00036 .00043  tanium 0.050 .00057 .00057  agsten 0.10 .0048 .012  anadium 0.010 .00073 .0011
poet 0.050 .00017 .00028  poper 0.025 .00086 .00086  and 0.050 .0016 .0017  con 0.10 .0039 .0041  and 0.010 .0015 .0015 0.0013 <0.010  genesium 5.0 .037 .037  anganese 0.015 .00011 .0009  lybdenum 0.10 .00021 .00064  ckel 0.040 .00021 .0003  alladium 0.050 .0024 .0025  atinum 0.050 .0073 .0073  tassium 5.0 .029 .03  lenium 0.010 .0011 .0017  licon 0.10 .0012 .0072  liver 0.0050 .0006 .0006  dium 5.0 .015 .031  rontium 0.010 .00013 .00031  allium 0.0050 .0007 .00074  an 0.10 .00036 .00043  tanium 0.050 .00057 .00057  angsten 0.10 .0048 .012  anadium 0.010 .00073 .0011
pper 0.025 .00086 .00086  Id 0.050 .0016 .0017  Id 0.010 .0039 .0041  Id 0.010 .0015 .0015 0.0013 <0.010  Id 0.010 .0015 .0015 0.0013 <0.010  Id 0.010 .0015 .00011 .0009  Il 0.010 .00021 .00064  Il 0.040 .00021 .0003  Il 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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on 0.10 .0039 .0041 ad 0.010 .0015 .0015 0.0013 <0.010  gnesium 5.0 .037 .037 aganese 0.015 .00011 .0009 alybdenum 0.10 .00021 .00064 akel 0.040 .0021 .0003 alladium 0.050 .0024 .0025 atinum 0.050 .0073 .0073 tassium 5.0 .029 .03 lenium 0.010 .0011 .0017 alicon 0.10 .0012 .0072 liver 0.0050 .0006 .0006 dium 5.0 .015 .031 allium 0.0050 .0007 .00074 allium 0.0050 .0007 .00074 allium 0.0050 .0006 .00043 tanium 0.050 .00057 .00057 agsten 0.10 .0048 .012 anadium 0.010 .0048 .012
ad 0.010 .0015 .0015 0.0013 <0.010  gnesium 5.0 .037 .037  loganese 0.015 .00011 .0009  lybdenum 0.10 .00021 .00064  ckel 0.040 .00021 .0003  lladium 0.050 .0024 .0025  atinum 0.050 .0073 .0073  lassium 5.0 .029 .03  lenium 0.010 .0011 .0017  licon 0.10 .0012 .0072  lver 0.0050 .0006 .0006  dium 5.0 .015 .031  rontium 0.010 .00013 .00031  allium 0.0050 .0007 .00074  a 0.10 .00036 .00043  tanium 0.050 .00057 .00057  logsten 0.10 .0048 .012  loadium 0.010 .00073 .0011
gnesium 5.0 .037 .037  nganese 0.015 .00011 .0009  hybdenum 0.10 .00021 .00064  ckel 0.040 .00021 .0003  hladium 0.050 .0024 .0025  atinum 0.050 .0073 .0073  tassium 5.0 .029 .03  henium 0.010 .0011 .0017  hicon 0.10 .0012 .0072  hver 0.0050 .0006 .0006  dium 5.0 .015 .031  rontium 0.010 .00013 .00031  allium 0.0050 .0007 .00074  n 0.10 .00036 .00043  tanium 0.050 .00057 .00057  ngsten 0.10 .0048 .012  nadium 0.010 .00073 .0011
Anganese 0.015 .00011 .0009 Alybdenum 0.10 .00021 .00064 Ackel 0.040 .00021 .0003 Alladium 0.050 .0024 .0025 Actinum 0.050 .0073 .0073 Actassium 5.0 .029 .03 Alenium 0.010 .0011 .0017 Alicon 0.10 .0012 .0072 Alver 0.0050 .0006 .0006 Addium 5.0 .015 .031 Arontium 0.010 .00013 .00031 Allium 0.0050 .0007 .00074 An 0.10 .00036 .00043 Actanium 0.050 .00057 .00057 Angsten 0.10 .0048 .012 Anadium 0.010 .00073 .0011
lybdenum       0.10       .00021       .00064         ckel       0.040       .00021       .0003         lladium       0.050       .0024       .0025         atinum       0.050       .0073       .0073         tassium       5.0       .029       .03         lenium       0.010       .0011       .0017         licon       0.10       .0012       .0072         lver       0.0050       .0006       .0006         dium       5.0       .015       .031         rontium       0.010       .00013       .00031         allium       0.0050       .0007       .00074         m       0.10       .00036       .00043         tanium       0.050       .00057       .00057         ngsten       0.10       .0048       .012         nadium       0.010       .00073       .0011
ckel       0.040       .00021       .0003         lladium       0.050       .0024       .0025         atinum       0.050       .0073       .0073         tassium       5.0       .029       .03         lenium       0.010       .0011       .0017         licon       0.10       .0012       .0072         liver       0.0050       .0006       .0006         dium       5.0       .015       .031         contium       0.010       .00013       .00031         allium       0.0050       .0007       .00074         m       0.10       .00036       .00043         tanium       0.050       .00057       .00057         ngsten       0.10       .0048       .012         nadium       0.010       .00073       .0011
lladium 0.050 .0024 .0025 atinum 0.050 .0073 .0073 tassium 5.0 .029 .03 lenium 0.010 .0011 .0017 licon 0.10 .0012 .0072 lver 0.0050 .0006 .0006 dium 5.0 .015 .031 rontium 0.010 .00013 .00031 allium 0.0050 .0007 .00074 a 0.10 .00036 .00043 tanium 0.050 .00057 .00057 agsten 0.10 .0048 .012 anadium 0.010 .00073 .0011
atinum 0.050 .0073 .0073  tassium 5.0 .029 .03  lenium 0.010 .0011 .0017  licon 0.10 .0012 .0072  lver 0.0050 .0006 .0006  dium 5.0 .015 .031  rontium 0.010 .00013 .00031  allium 0.0050 .0007 .00074  n 0.10 .00036 .00043  tanium 0.050 .00057 .00057  ngsten 0.10 .0048 .012  nadium 0.010 .00073 .0011
tassium 5.0 .029 .03  lenium 0.010 .0011 .0017  licon 0.10 .0012 .0072  lver 0.0050 .0006 .0006  dium 5.0 .015 .031  rontium 0.010 .00013 .00031  allium 0.0050 .0007 .00074  n 0.10 .00036 .00043  tanium 0.050 .00057 .00057  ngsten 0.10 .0048 .012  nadium 0.010 .00073 .0011
lenium 0.010 .0011 .0017 licon 0.10 .0012 .0072 lver 0.0050 .0006 .0006 dium 5.0 .015 .031 rontium 0.010 .00013 .00031 allium 0.0050 .0007 .00074 n 0.10 .00036 .00043 tanium 0.050 .00057 .00057 ngsten 0.10 .0048 .012 nadium 0.010 .00073 .0011
licon 0.10 .0012 .0072 lver 0.0050 .0006 .0006 dium 5.0 .015 .031 rontium 0.010 .00013 .00031 allium 0.0050 .0007 .00074 a 0.10 .00036 .00043 tanium 0.050 .00057 .00057 agsten 0.10 .0048 .012 anadium 0.010 .00073 .0011
lver 0.0050 .0006 .0006 dium 5.0 .015 .031 rontium 0.010 .00013 .00031 allium 0.0050 .0007 .00074 allium 0.010 .00036 .00043 tanium 0.050 .00057 .00057 agsten 0.10 .0048 .012 anadium 0.010 .00073 .0011
dium 5.0 .015 .031  rontium 0.010 .00013 .00031  allium 0.0050 .0007 .00074  n 0.10 .00036 .00043  tanium 0.050 .00057 .00057  ngsten 0.10 .0048 .012  nadium 0.010 .00073 .0011
contium 0.010 .00013 .00031  allium 0.0050 .0007 .00074  a 0.10 .00036 .00043  tanium 0.050 .00057 .00057  agsten 0.10 .0048 .012  anadium 0.010 .00073 .0011
allium 0.0050 .0007 .00074  n 0.10 .00036 .00043  tanium 0.050 .00057 .00057  ngsten 0.10 .0048 .012  nadium 0.010 .00073 .0011
n 0.10 .00036 .00043 tanium 0.050 .00057 .00057 ngsten 0.10 .0048 .012 nadium 0.010 .00073 .0011
ngsten 0.00 .00057 .00057 .00057 .00057 .00048 .012 .00073 .0011
ngsten 0.10 .0048 .012 nadium 0.010 .00073 .0011
nadium 0.010 .00073 .0011
nc 0.10 .00024 .002

Associated samples MP16354: M96225-1A, M96225-2A, M96225-3A, M96225-4A, M96225-5A, M96225-6A, M96225-7A

#### BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: M96225
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16354 Methods: SW846 6010C Matrix Type: LEACHATE Units:  $\mbox{mg/l}$ 

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

Login Number: M96225
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16354 Methods: SW846 6010C Matrix Type: LEACHATE Units:  $\mbox{mg/l}$ 

Macrix Type.	DDITCHTTE				OHILES.	9/1		
Prep Date:			12/09/1	0			12/09/1	10
Metal	M96199-5A Original MS	Spikelo MPICP	t % Rec	QC Limits	M96199-5A Original DU	P	RPD	QC Limits
Aluminum								
Antimony								
Arsenic	anr							
Barium	anr							
Beryllium								
Boron								
Cadmium	anr							
Calcium								
Chromium	anr							
Cobalt								
Copper								
Gold								
Iron								
Lead	0.56 1.5	1.0	94.0	75-125	0.56 0.	56	0.0	0-20
Magnesium								
Manganese								
Molybdenum								
Nickel								
Palladium								
Platinum								
Potassium								
Selenium	anr							
Silicon								
Silver	anr							
Sodium								
Strontium								
Thallium								
Tin								
Titanium								
Tungsten								
Vanadium								

Associated samples MP16354: M96225-1A, M96225-2A, M96225-3A, M96225-4A, M96225-5A, M96225-6A, M96225-7A

Zinc

Login Number: M96225 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16354 Methods: SW846 6010C Matrix Type: LEACHATE Units: mg/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

Login Number: M96225
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16354 Methods: SW846 6010C Matrix Type: LEACHATE Units:  $\mbox{mg/l}$ 

Prep Date: 12/09/10

Metal	M96289-4A Original L	s	Spikelot MPICP	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	anr				
Barium	anr				
Beryllium					
Boron					
Cadmium	anr				
Calcium					
Chromium	anr				
Cobalt					
Copper					
Gold					
Iron					
Lead	1.9 2	.9	1.0	100.0	75-125
Magnesium					
Manganese					
Molybdenum					
Nickel					
Palladium					
Platinum					
Potassium					
Selenium	anr				
Silicon					
Silver	anr				
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Tungsten					
Vanadium					
Zinc					

Associated samples MP16354: M96225-1A, M96225-2A, M96225-3A, M96225-4A, M96225-5A, M96225-6A, M96225-7A

Login Number: M96225 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16354 Methods: SW846 6010C Matrix Type: LEACHATE Units: mg/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

#### SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

## Login Number: M96225 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16354 Methods: SW846 6010C Matrix Type: LEACHATE Units:  $\mbox{mg/l}$ 

Matrix Type:	LEACHATE					Unit	s: mg/l		
Prep Date:			12/09/10					12/09/10	
Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	BSD Result	Spikelot MPICP	% Rec	BSD RPD	QC Limit
Aluminum									
Antimony									
Arsenic	anr								
Barium	anr								
Beryllium									
Boron									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt									
Copper									
Gold									
Iron									
Lead	0.91	1.0	91.0	80-120	0.91	1.0	91.0	0.0	20
Magnesium									
Manganese									
Molybdenum									
Nickel									
Palladium									
Platinum									
Potassium									
Selenium	anr								
Silicon									
Silver	anr								
Sodium									
Strontium									
Thallium									
Tin									
Titanium									
Tungsten									
Vanadium									
Zina									

Associated samples MP16354: M96225-1A, M96225-2A, M96225-3A, M96225-4A, M96225-5A, M96225-6A, M96225-7A

Zinc

#### SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: M96225
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16354 Methods: SW846 6010C Matrix Type: LEACHATE Units:  $\mbox{mg/l}$ 

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested



#### SERIAL DILUTION RESULTS SUMMARY

## Login Number: M96225 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16354 Methods: SW846 6010C Matrix Type: LEACHATE Units: ug/l

Prep Date: 12/09/10

rrep bace.		12/05/10	
Metal	M96199-5A Original SDL 1:5	%DIF	QC Limits
Aluminum			
Antimony			
Arsenic	anr		
Barium	anr		
Beryllium			
Boron			
Cadmium	anr		
Calcium			
Chromium	anr		
Cobalt			
Copper			
Gold			
Iron			
Lead	555 576	3.6	0-10
Magnesium			
Manganese			
Molybdenum			
Nickel			
Palladium			
Platinum			
Potassium			
Selenium	anr		
Silicon			
Silver	anr		
Sodium			
Strontium			
Thallium			
Tin			
Titanium			
Tungsten			
Vanadium			
Zinc			

Associated samples MP16354: M96225-1A, M96225-2A, M96225-3A, M96225-4A, M96225-5A, M96225-6A, M96225-7A

#### SERIAL DILUTION RESULTS SUMMARY

Login Number: M96225
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16354 Methods: SW846 6010C Matrix Type: LEACHATE Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

\_\_\_\_

#### BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: M96225 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16357 Methods: SW846 7470A

Matrix Type: LEACHATE Units: mg/l

12/09/10 Prep Date:

MB IDL MDL Metal RL raw final

0.00020 .000022 .000048 0.000024 <0.00020 Mercury Associated samples MP16357: M96225-2A, M96225-4A

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits  $\begin{tabular}{ll} \end{tabular}$ 

Login Number: M96225 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16357 Methods: SW846 7470A Matrix Type: LEACHATE Units: mg/l

12/09/10 12/09/10 Prep Date:

Metal	M96225-2A Original MS	Spikelot HGRWS1 % Rec	QC Limits	M96225-2A Original DUP	RPD	QC Limits	
Mercury	0.000032 0.0032	0.0030 105.6	75-125	0.000032 0.000030	0 6.5	0-20	

Associated samples MP16357: M96225-2A, M96225-4A

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits  $\hfill \hfill$ 

(N) Matrix Spike Rec. outside of QC limits



#### SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: M96225 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16357 Methods: SW846 7470A Matrix Type: LEACHATE Units: mg/l

12/09/10 12/09/10 Prep Date:

Metal	BSP Result	Spikelot HGRWS1	% Rec	QC Limits	BSD Result	Spikelot HGRWS1	% Rec	BSD RPD	QC Limit	
Mercury	0.0032	0.0030	106.7	80-120	0.0032	0.0030	106.7	0.0		

Associated samples MP16357: M96225-2A, M96225-4A

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits  $\begin{tabular}{ll} \end{tabular}$ 



## General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries



## METHOD BLANK AND SPIKE RESULTS SUMMARY GENERAL CHEMISTRY

Login Number: M96225
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Cyanide Reactivity	GP12374/GN33632	1.5	<1.5	mg/kg	250	31.4	12.6	- %
Sulfide Reactivity	GP12375/GN33633	50	<50	mg/kg	450	400	88.9	- %

#### Associated Samples:

Batch GP12374: M96225-1, M96225-2, M96225-3, M96225-4, M96225-5, M96225-6, M96225-7, M96225-8
Batch GP12375: M96225-1, M96225-2, M96225-3, M96225-4, M96225-5, M96225-6, M96225-7, M96225-8
(\*) Outside of QC limits



## DUPLICATE RESULTS SUMMARY GENERAL CHEMISTRY

Login Number: M96225
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits	
Corrosivity as pH	GN33617	M96225-8		7.7	7.7	0.0	0-%	
Cyanide Reactivity	GP12374/GN33632	M96225-8	mg/kg	<2.0	<2.0	0.0	0-20%	
Ignitability (Flashpoint)	GN33600	M96199-5	Deg. F	>230	>230	0.0	0-20%	
Redox Potential Vs H2	GN33622	M96225-8	mv	426	423(a)	0.7(a)	0-20%	
Solids, Percent	GN33605	M96225-8	8	73.4	72.1	1.8	0-20%	
Solids, Percent	GN33609	M96200-13	8	81	79.8	1.5	0-20%	
Sulfide Reactivity	GP12375/GN33633	M96225-8	ma/ka	<68	<68	0.0	0-20%	

#### Associated Samples:

 $\mathtt{Batch}\ \mathtt{GN33600}\colon\ \mathtt{M96225-1},\ \mathtt{M96225-2},\ \mathtt{M96225-3},\ \mathtt{M96225-4},\ \mathtt{M96225-5},\ \mathtt{M96225-6},\ \mathtt{M96225-7},\ \mathtt{M96225-8}$ 

Batch GN33605: M96225-1, M96225-2, M96225-8

Batch GN33609: M96225-3, M96225-4, M96225-5, M96225-6, M96225-7

Batch GN33617: M96225-1, M96225-2, M96225-3, M96225-4, M96225-5, M96225-6, M96225-7, M96225-8
Batch GN33622: M96225-1, M96225-2, M96225-3, M96225-4, M96225-5, M96225-6, M96225-7, M96225-8
Batch GP12374: M96225-1, M96225-2, M96225-3, M96225-4, M96225-5, M96225-6, M96225-7, M96225-8
Batch GP12375: M96225-1, M96225-2, M96225-3, M96225-4, M96225-5, M96225-6, M96225-7, M96225-8

(\*) Outside of QC limits

(a) Analysis requested after recommended holding time.



## MATRIX SPIKE RESULTS SUMMARY GENERAL CHEMISTRY

Login Number: M96225
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Cyanide Reactivity	GP12374/GN33632	M96225-8	mg/kg	<2.0	341	41.3	12.1	- %
Sulfide Reactivity	GP12375/GN33633	M96225-8	mg/kg	<68	613	409	66.7	- %

#### Associated Samples:

Batch GP12374: M96225-1, M96225-2, M96225-3, M96225-4, M96225-5, M96225-6, M96225-7, M96225-8
Batch GP12375: M96225-1, M96225-2, M96225-3, M96225-4, M96225-5, M96225-6, M96225-7, M96225-8
(\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits





12/18/10



## Technical Report for

Haley & Aldrich

Former Energy International Parcel, MA

06318-502

Accutest Job Number: M96226

Sampling Date: 11/30/10

### Report to:

Haley & Aldrich

jkullmann@haleyaldrich.com

ATTN: Jane Kullmann

Total number of pages in report: 37



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Client Service contact: Kristen Blanchard 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) ISO 17025:2005 (L2235) This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories. Test results relate only to samples analyzed.

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Lab Director

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## **Sample Summary**

Haley & Aldrich

Job No: M96226

Former Energy International Parcel, MA Project No: 06318-502

Sample Number	Collected Date	Time By	Received	Matri Code		Client Sample ID
M96226-1	11/30/10	08:00 MD	11/30/10	SO	Soil	HA110_0-2'
M96226-2	11/30/10	08:00 MD	11/30/10	SO	Soil	HA110_2-4'
M96226-4	11/30/10	08:35 MD	11/30/10	SO	Soil	HA110_6-8'
M96226-5	11/30/10	08:45 MD	11/30/10	SO	Soil	HA110_8-10'
M96226-6	11/30/10	08:45 MD	11/30/10	SO	Soil	HA110_10-12'
M96226-7	11/30/10	09:10 MD	11/30/10	SO	Soil	HA110_12-14'
M96226-8	11/30/10	09:10 MD	11/30/10	SO	Soil	HA110_14-16'
M96226-9	11/30/10	09:25 MD	11/30/10	SO	Soil	HA110_16-18'
M96226-10	11/30/10	10:00 MD	11/30/10	SO	Soil	HA109_0-2'
M96226-11	11/30/10	10:00 MD	11/30/10	SO	Soil	HA109_2-4'
M96226-13	11/30/10	10:35 MD	11/30/10	SO	Soil	HA109_6-8'
M96226-14	11/30/10	10:55 MD	11/30/10	SO	Soil	HA109_8-10'
M96226-15	11/30/10	10:55 MD	11/30/10	SO	Soil	HA109_10-12'

Soil samples reported on a dry weight basis unless otherwise indicated on result page.



# Sample Summary (continued)

Haley & Aldrich

Job No: M96226

Former Energy International Parcel, MA Project No: 06318-502

Sample Number	Collected Date	Time By	Received	Matri Code		Client Sample ID
M96226-16	11/30/10	11:30 MD	11/30/10	SO	Soil	HA109_12-14'
M96226-17	11/30/10	11:20 MD	11/30/10	SO	Soil	HA109_14-16.5'
M96226-18	11/30/10	11:50 MD	11/30/10	SO	Soil	HA109_16.5-18'
M96226-19	11/30/10	12:20 MD	11/30/10	SO	Soil	HA108_0-2'
M96226-20	11/30/10	12:25 MD	11/30/10	SO	Soil	HA108_2-4'
M96226-22	11/30/10	13:00 MD	11/30/10	SO	Soil	HA108_6-8'
M96226-23	11/30/10	13:40 MD	11/30/10	SO	Soil	HA108_8-10'
M96226-24	11/30/10	13:35 MD	11/30/10	SO	Soil	HA108_10-13'
M96226-25	11/30/10	13:50 MD	11/30/10	SO	Soil	HA108_13-16'
M96226-26	11/30/10	14:05 MD	11/30/10	SO	Soil	HA107_0-2'
M96226-27	11/30/10	14:10 MD	11/30/10	SO	Soil	HA107_2-4'
M96226-29	11/30/10	14:40 MD	11/30/10	SO	Soil	HA107_6-8'
M96226-30	11/30/10	15:00 MD	11/30/10	SO	Soil	HA107_8-10'

Soil samples reported on a dry weight basis unless otherwise indicated on result page.





# Sample Summary (continued)

Haley & Aldrich

Job No: M96226

Former Energy International Parcel, MA Project No: 06318-502

Sample Number	Collected Date	Time By	Received	Matr Code		Client Sample ID
M96226-31	11/30/10	14:55 MD	11/30/10	SO	Soil	HA107_10-12'
M96226-32	11/30/10	15:25 MD	11/30/10	SO	Soil	HA107_12-14.5'
M96226-33	11/30/10	15:30 MD	11/30/10	SO	Soil	HA107_14.5-16'

Soil samples reported on a dry weight basis unless otherwise indicated on result page.





#### SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Haley & Aldrich Job No M96226

Site: Former Energy International Parcel, MA Report Date 12/18/2010 6:51:27 PM

12 Sample(s) were collected on 11/30/2010 and were received at Accutest on 11/30/2010 properly preserved, at 2.3 Deg. C and intact. These Samples received an Accutest job number of M96226. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

#### Extractables by GC By Method SW846 8082

Matrix SO Batch ID: OP23523

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) M96226-4MS, M96226-4MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Matrix Spike Recovery(s) for Aroclor 1260 are outside control limits. Outside control limits due to possible matrix interference.
- OP23523-MS for Tetrachloro-m-xylene, Decachlorobiphenyl: Outside control limits due to possible matrix interference.

Matrix SO Batch ID: OP23621

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96200-1MS, M96200-1MSD were used as the QC samples indicated.
- OP23621-MSD for Decachlorobiphenyl: Outside control limits due to possible matrix interference.
- M96226-1, M96226-2, M96226-27 for Aroclor 1260: Estimated value due to the presence of other Arochlor pattern.
- M96226-11, M96226-19 for Aroclor 1254: Estimated value due to the presence of other Arochlor pattern.
- M96226-11, M96226-19, M96226-20, M96226-12, M96226-10, M96226-27, OP23621-MSD for Decachlorobiphenyl: Outside control limits due to possible matrix interference.
- M96226-26 for Decachlorobiphenyl: Outside control limits due to possible matrix interference.

#### Wet Chemistry By Method SM21 2540 B MOD.

Matrix SO Batch ID: GN33605

Sample(s) M96225-8DUP were used as the QC samples for Solids, Percent.

Matrix SO Batch ID: GN33609

Sample(s) M96200-13DUP were used as the QC samples for Solids, Percent.

Matrix SO Batch ID: GN33702

Sample(s) M96200-2DUP were used as the QC samples for Solids, Percent.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety. The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report (M96226).





Sample Results	
Report of Analysis	



## **Report of Analysis**

 Client Sample ID:
 HA110\_0-2'

 Lab Sample ID:
 M96226-1

 Matrix:
 SO - Soil

**Method:** SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA

Date Sampled: 11/30/10
Date Received: 11/30/10
Percent Solids: 85.1

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 YZ63145.D 1 12/18/10 CZ12/13/10 OP23621 GYZ6278 Run #2

Run #1 15.2 g Final Volume
Run #2

#### **PCB** List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	120	ug/kg	
11104-28-2	Aroclor 1221	ND	120	ug/kg	
11141-16-5	Aroclor 1232	ND	120	ug/kg	
53469-21-9	Aroclor 1242	ND	120	ug/kg	
12672-29-6	Aroclor 1248	ND	120	ug/kg	
11097-69-1	Aroclor 1254	172	120	ug/kg	
11096-82-5	Aroclor 1260 a	136	120	ug/kg	
37324-23-5	Aroclor 1262	ND	120	ug/kg	
11100-14-4	Aroclor 1268	ND	120	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its
877-09-8	Tetrachloro-m-xylene	112%		30-1	50%
877-09-8	Tetrachloro-m-xylene	123%		30-1	50%
2051-24-3	Decachlorobiphenyl	150%		30-1	50%
2051-24-3	Decachlorobiphenyl	85%		30-1	50%

(a) Estimated value due to the presence of other Arochlor pattern.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



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#### Page 1 of 1

### **Report of Analysis**

Client Sample ID: HA110\_2-4'
Lab Sample ID: M96226-2
Matrix: SO - Soil

**Method:** SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA

**Date Sampled:** 11/30/10 **Date Received:** 11/30/10

Percent Solids: 89.0

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 YZ63147.D 1 12/18/10 CZ12/13/10 OP23621 GYZ6278 Run #2

Run #1 15.8 g Final Volume
Run #2

#### **PCB** List

Compound	Result	RL	Units Q
Aroclor 1016 Aroclor 1221 Aroclor 1232 Aroclor 1242 Aroclor 1248 Aroclor 1254 Aroclor 1260 a Aroclor 1262	ND ND ND ND ND 549 457 ND	110 110 110 110 110 110 110 110	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg
Aroclor 1268	ND	110	ug/kg
Surrogate Recoveries	Run# 1	Run# 2	Limits
Tetrachloro-m-xylene Tetrachloro-m-xylene Decachlorobiphenyl	101% 69% 489% b		30-150% 30-150% 30-150% 30-150%
	Aroclor 1016 Aroclor 1221 Aroclor 1232 Aroclor 1242 Aroclor 1248 Aroclor 1254 Aroclor 1260 a Aroclor 1262 Aroclor 1268  Surrogate Recoveries  Tetrachloro-m-xylene Tetrachloro-m-xylene	Aroclor 1016 Aroclor 1221 Aroclor 1232 Aroclor 1242 Aroclor 1248 Aroclor 1254 Aroclor 1254 Aroclor 1260 a Aroclor 1262 Aroclor 1268  Surrogate Recoveries  Run# 1  Tetrachloro-m-xylene Tetrachloro-m-xylene Decachlorobiphenyl  ND  ND  ND  ND  ND  ND	Aroclor 1016 ND 110 Aroclor 1221 ND 110 Aroclor 1232 ND 110 Aroclor 1242 ND 110 Aroclor 1248 ND 110 Aroclor 1254 549 110 Aroclor 1260 a 457 110 Aroclor 1262 ND 110 Aroclor 1268 ND 110  Surrogate Recoveries Run# 1 Run# 2  Tetrachloro-m-xylene Tetrachloro-m-xylene Decachlorobiphenyl 489% b

- (a) Estimated value due to the presence of other Arochlor pattern.
- (b) Outside control limits due to possible matrix interference.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



W

#### Page 1 of 1

## **Report of Analysis**

Client Sample ID: HA110\_6-8'
Lab Sample ID: M96226-4
Matrix: SO - Soil

File ID

BE22761.D

**Method:** SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA

DF

1

Date Sampled: 11/30/10 Date Received: 11/30/10 Percent Solids: 84.9

AnalyzedByPrep DatePrep BatchAnalytical Batch12/06/10AP12/03/10OP23523GBE1365

Run #1 Run #2

> **Initial Weight** Final Volume 15.5 g 10.0 ml

Run #1 Run #2

#### **PCB List**

CAS No.	Compound	Result	RL	Units	Λ
CAS No.	Compound	Kesuit	KL	Ullits	Q
12674-11-2	Aroclor 1016	ND	110	ug/kg	
11104-28-2	Aroclor 1221	ND	110	ug/kg	
11141-16-5	Aroclor 1232	ND	110	ug/kg	
53469-21-9	Aroclor 1242	ND	110	ug/kg	
12672-29-6	Aroclor 1248	ND	110	ug/kg	
11097-69-1	Aroclor 1254	ND	110	ug/kg	
11096-82-5	Aroclor 1260	ND	110	ug/kg	
37324-23-5	Aroclor 1262	ND	110	ug/kg	
11100-14-4	Aroclor 1268	ND	110	ug/kg	
				0 0	
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Lim	its
877-09-8	Tetrachloro-m-xylene	98%		30-1	50%
877-09-8	Tetrachloro-m-xylene	96%		30-1	50%
2051-24-3	Decachlorobiphenyl	101%		30-1	50%
2051-24-3	Decachlorobiphenyl	117%		30-1	50%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



G

## **Report of Analysis**

Page 1 of 1

Client Sample ID: HA109\_0-2' Lab Sample ID: M96226-10

**Matrix:** SO - Soil Method: SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA **Date Sampled:** 11/30/10 **Date Received:** 11/30/10 Percent Solids: 87.9

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 YZ63083.D 1 12/17/10 CZ12/13/10 OP23621 GYZ2677 Run #2

**Final Volume Initial Weight** Run #1 10.0 ml 15.2 g Run #2

#### **PCB List**

CAS No.	Compound	Result	RL	Units Q
12674-11-2	Aroclor 1016	ND	110	ug/kg
11104-28-2	Aroclor 1221	ND	110	ug/kg
11141-16-5	Aroclor 1232	ND	110	ug/kg
53469-21-9	Aroclor 1242	ND	110	ug/kg
12672-29-6	Aroclor 1248	ND	110	ug/kg
11097-69-1	Aroclor 1254	ND	110	ug/kg
11096-82-5	Aroclor 1260	ND	110	ug/kg
37324-23-5	Aroclor 1262	ND	110	ug/kg
11100-14-4	Aroclor 1268	ND	110	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	74%		30-150%
877-09-8	Tetrachloro-m-xylene	85%		30-150%
2051-24-3	Decachlorobiphenyl	438% a		30-150%
2051-24-3	Decachlorobiphenyl	30%		30-150%

(a) Outside control limits due to possible matrix interference.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



## **Report of Analysis**

Client Sample ID: HA109\_2-4' Lab Sample ID: M96226-11 Matrix: SO - Soil

Method: SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA **Date Sampled:** 11/30/10 **Date Received:** 11/30/10

Percent Solids: 83.6

	File ID	DF	Analyzed	$\mathbf{B}\mathbf{y}$	Prep Date	Prep Batch	Analytical Batch
Run #1	YZ63086.D	1	12/17/10	CZ	12/13/10	OP23621	GYZ2677
Run #2							

	Initial Weight	Final Volume
Run #1	15.7 g	10.0 ml
Run #2		

#### **PCB List**

CAS No.	Compound	Result	RL	Units	Q
12674-11-2 11104-28-2	Aroclor 1016 Aroclor 1221	ND ND	110 110	ug/kg	
11141-16-5	Aroclor 1232	ND	110	ug/kg ug/kg	
53469-21-9 12672-29-6	Aroclor 1242 Aroclor 1248	ND ND	110 110	ug/kg ug/kg	
11097-69-1 11096-82-5	Aroclor 1254 <sup>a</sup> Aroclor 1260	341 353	110 110	ug/kg ug/kg	
37324-23-5	Aroclor 1262	ND	110	ug/kg	
11100-14-4	Aroclor 1268	ND	110	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	ts
877-09-8	Tetrachloro-m-xylene	91%		30-15	60%
877-09-8	Tetrachloro-m-xylene	55%		30-15	0%
2051-24-3	Decachlorobiphenyl	517% b		30-15	60%
2051-24-3	Decachlorobiphenyl	113%		30-15	0%

- (a) Estimated value due to the presence of other Arochlor pattern.
- (b) Outside control limits due to possible matrix interference.

ND = Not detected RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Client Sample ID: HA109\_6-8' Lab Sample ID: M96226-13

Matrix: M96226-13
SO - Soil

**Method:** SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA

**Date Sampled:** 11/30/10 **Date Received:** 11/30/10

Percent Solids: 87.0

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BE22768.D 1 12/06/10 AP 12/03/10 OP23523 GBE1365

Run #2

Initial Weight Final Volume 15.2 g 10.0 ml

Run #1 Run #2

#### **PCB List**

CAS No.	Compound	Result	RL	Units Q
12674-11-2 11104-28-2 11141-16-5 53469-21-9 12672-29-6 11097-69-1 11096-82-5 37324-23-5	Aroclor 1016 Aroclor 1221 Aroclor 1232 Aroclor 1242 Aroclor 1248 Aroclor 1254 Aroclor 1260 Aroclor 1262	ND ND ND ND ND 115 ND	110 110 110 110 110 110 110 110	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg
11100-14-4	Aroclor 1268	ND	110	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8 877-09-8 2051-24-3	Tetrachloro-m-xylene Tetrachloro-m-xylene Decachlorobiphenyl	72% 77% 71%		30-150% 30-150% 30-150%
2051-24-3	Decachlorobiphenyl	75%		30-150%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



## **Report of Analysis**

Client Sample ID: HA108\_0-2' Lab Sample ID: M96226-19 Matrix:

SO - Soil Method: SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA **Date Sampled:** 11/30/10 **Date Received:** 11/30/10

Percent Solids: 85.1

	File ID	DF	Analyzed	$\mathbf{B}\mathbf{y}$	Prep Date	Prep Batch	<b>Analytical Batch</b>
Run #1	YZ63088.D	1	12/17/10	CZ	12/13/10	OP23621	GYZ2677
Run #2							

**Final Volume Initial Weight** Run #1 15.2 g 10.0 ml Run #2

#### **PCB List**

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	120	ug/kg	
11104-28-2	Aroclor 1221	ND	120	ug/kg	
11141-16-5	Aroclor 1232	ND	120	ug/kg	
53469-21-9	Aroclor 1242	ND	120	ug/kg	
12672-29-6	Aroclor 1248	ND	120	ug/kg	
11097-69-1	Aroclor 1254 a	242	120	ug/kg	
11096-82-5	Aroclor 1260	310	120	ug/kg	
37324-23-5	Aroclor 1262	ND	120	ug/kg	
11100-14-4	Aroclor 1268	ND	120	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	its
877-09-8	Tetrachloro-m-xylene	97%		30-1:	50%
877-09-8	Tetrachloro-m-xylene	94%		30-1:	50%
2051-24-3	Decachlorobiphenyl	607% b		30-1:	50%
2051-24-3	Decachlorobiphenyl	140%		30-1:	50%

- (a) Estimated value due to the presence of other Arochlor pattern.
- (b) Outside control limits due to possible matrix interference.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



## **Report of Analysis**

Client Sample ID: HA108\_2-4'
Lab Sample ID: M96226-20
Matrix: SO - Soil

**Method:** SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA

**Date Sampled:** 11/30/10 **Date Received:** 11/30/10

Percent Solids: 85.0

	File ID	DF	Analyzed	$\mathbf{B}\mathbf{y}$	Prep Date	Prep Batch	Analytical Batch
Run #1	YZ63090.D	1	12/17/10	CZ	12/13/10	OP23621	GYZ2677
Run #2							

	<b>Initial Weight</b>	Final Volume
Run #1	15.9 g	10.0 ml
Run #2		

#### **PCB** List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	110	ug/kg	
11104-28-2	Aroclor 1221	ND	110	ug/kg	
11141-16-5	Aroclor 1232	ND	110	ug/kg	
53469-21-9	Aroclor 1242	ND	110	ug/kg	
12672-29-6	Aroclor 1248	ND	110	ug/kg	
11097-69-1	Aroclor 1254	244	110	ug/kg	
11096-82-5	Aroclor 1260	ND	110	ug/kg	
37324-23-5	Aroclor 1262	ND	110	ug/kg	
11100-14-4	Aroclor 1268	ND	110	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its
877-09-8	Tetrachloro-m-xylene	92%		30-1	50%
877-09-8	Tetrachloro-m-xylene	121%		30-1	50%
2051-24-3	Decachlorobiphenyl	231% a		30-1	50%
2051-24-3	Decachlorobiphenyl	130%		30-1	50%

(a) Outside control limits due to possible matrix interference.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



L

#### Page 1 of 1

**Analytical Batch** 

## **Report of Analysis**

Client Sample ID: HA108\_6-8' Lab Sample ID: M96226-22 Matrix: SO - Soil

Method: SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA **Date Sampled:** 11/30/10 **Date Received:** 11/30/10 **Percent Solids:** 84.3

File ID DF Analyzed By **Prep Date Prep Batch** 

Run #1 BE22775.D 1 12/06/10 AP 12/03/10 OP23523 GBE1365

Run #2

**Final Volume Initial Weight** Run #1 10.0 ml 15.2 g

Run #2

#### **PCB List**

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	120	ug/kg	
11104-28-2	Aroclor 1221	ND	120	ug/kg	
11141-16-5	Aroclor 1232	ND	120	ug/kg	
53469-21-9	Aroclor 1242	ND	120	ug/kg	
12672-29-6	Aroclor 1248	ND	120	ug/kg	
11097-69-1	Aroclor 1254	ND	120	ug/kg	
11096-82-5	Aroclor 1260	ND	120	ug/kg	
37324-23-5	Aroclor 1262	ND	120	ug/kg	
11100-14-4	Aroclor 1268	ND	120	ug/kg	
				0 0	
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limit	S
877-09-8	Tetrachloro-m-xylene	106%		30-15	0%
877-09-8	Tetrachloro-m-xylene	106%		30-15	0%
2051-24-3	Decachlorobiphenyl	104%	30-150		0%
2051-24-3	Decachlorobiphenyl	106%		30-15	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



## **Report of Analysis**

Page 1 of 1

Client Sample ID: HA107\_0-2' Lab Sample ID: M96226-26

 Matrix:
 SO - Soil

 Method:
 SW846 8082
 SW846 3540C

**Project:** Former Energy International Parcel, MA

Date Sampled: 11/30/10 Date Received: 11/30/10 Percent Solids: 92.7

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 YZ63092.D 1 12/17/10 CZ 12/13/10 OP23621 GYZ2677

Run #2

Initial Weight Final Volume 15.2 g 10.0 ml

Run #1 Run #2

#### **PCB List**

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	110	ug/kg	
11104-28-2	Aroclor 1221	ND	110	ug/kg	
11141-16-5	Aroclor 1232	ND	110	ug/kg	
53469-21-9	Aroclor 1242	ND	110	ug/kg	
12672-29-6	Aroclor 1248	ND	110	ug/kg	
11097-69-1	Aroclor 1254	276	110	ug/kg	
11096-82-5	Aroclor 1260	ND	110	ug/kg	
37324-23-5	Aroclor 1262	ND	110	ug/kg	
11100-14-4	Aroclor 1268	ND	110	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	its
877-09-8	Tetrachloro-m-xylene	110%		30-1	50%
877-09-8	Tetrachloro-m-xylene	77%		30-1	50%
2051-24-3	Decachlorobiphenyl	488% a		30-1	50%
2051-24-3	Decachlorobiphenyl	145%		30-1	50%

(a) Outside control limits due to possible matrix interference.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



#### Page 1 of 1

## **Report of Analysis**

Client Sample ID: HA107\_2-4'
Lab Sample ID: M96226-27
Matrix: SO - Soil

**Method:** SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA

**Date Sampled:** 11/30/10 **Date Received:** 11/30/10

Percent Solids: 85.0

	File ID	DF	Analyzed	$\mathbf{B}\mathbf{y}$	Prep Date	Prep Batch	<b>Analytical Batch</b>
Run #1	YZ63094.D	1	12/17/10	CZ	12/13/10	OP23621	GYZ2677
Run #2							

	Initial Weight	Final Volume
Run #1	15.0 g	10.0 ml
Run #2		

#### **PCB List**

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	120	ug/kg	
11104-28-2	Aroclor 1221	ND	120	ug/kg	
11141-16-5	Aroclor 1232	ND	120	ug/kg	
53469-21-9	Aroclor 1242	ND	120	ug/kg	
12672-29-6	Aroclor 1248	ND	120	ug/kg	
11097-69-1	Aroclor 1254	567	120	ug/kg	
11096-82-5	Aroclor 1260 a	463	120	ug/kg	
37324-23-5	Aroclor 1262	ND	120	ug/kg	
11100-14-4	Aroclor 1268	ND	120	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	its
877-09-8	Tetrachloro-m-xylene	101%		30-1	50%
877-09-8	Tetrachloro-m-xylene	128%		30-1	50%
2051-24-3	Decachlorobiphenyl	388% b		30-1	50%
2051-24-3	Decachlorobiphenyl	147%		30-1	50%

- (a) Estimated value due to the presence of other Arochlor pattern.
- (b) Outside control limits due to possible matrix interference.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

 $N = \ Indicates \ presumptive \ evidence \ of \ a \ compound$ 



### Page 1 of 1

## **Report of Analysis**

Client Sample ID: HA107\_6-8'
Lab Sample ID: M96226-29
Matrix: SO - Soil

File ID

BE22779.D

**Method:** SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA

DF

1

Date Sampled: 11/30/10 Date Received: 11/30/10 Percent Solids: 68.6

AnalyzedByPrep DatePrep BatchAnalytical Batch12/06/10AP12/03/10OP23523GBE1365

Run #1 Run #2

Initial Weight Final Volume
Run #1 15.4 g 10.0 ml

Run #2

#### **PCB List**

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	140	ug/kg	
11104-28-2	Aroclor 1221	ND	140	ug/kg	
11141-16-5	Aroclor 1232	ND	140	ug/kg	
53469-21-9	Aroclor 1242	ND	140	ug/kg	
12672-29-6	Aroclor 1248	ND	140	ug/kg	
11097-69-1	Aroclor 1254	ND	140	ug/kg	
11096-82-5	Aroclor 1260	ND	140	ug/kg	
37324-23-5	Aroclor 1262	ND	140	ug/kg	
11100-14-4	Aroclor 1268	ND	140	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	ts
877-09-8	Tetrachloro-m-xylene	93%		30-15	50%
877-09-8	Tetrachloro-m-xylene	89%		30-15	50%
2051-24-3	Decachlorobiphenyl	90%	30-150		50%
2051-24-3	Decachlorobiphenyl	88%		30-15	50%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



C



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Parameter Certifications (MA)
- Chain of Custody
- MCP Form
- Sample Tracking Chronicle



## **Parameter Certification Exceptions**

Job Number: M96226

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA Project:

The following parameters included in this report are exceptions to NELAC certification. The certification status of each is indicated below.

Parameter	CAS#	Method	Mat	Certification Status
Aroclor 1262	37324-23-5	SW846 8082	SO	Certified by SOP MGC204/GC-ECD
Aroclor 1268	11100-14-4	SW846 8082	SO	Certified by SOP MGC204/GC-ECD



Page 1 of 1

HALEY& ALDRICH	HALEY& Aldrich, Inc. 465 Medford St., Suite 2200, Boston, MA 02129-1400 &A FILE NO.  O D S - 502					*************		OF				)Y R	ECOR	Page of		
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Sign	Sign						402				A A PARTY OF THE P		Volume	If YES, please explain in section	n below.	
Print	Print							PR	ESERVA?	TION K	EY					
Firm	Firm			T	A Sam	ple chilled	C	VaOH	E I	I₂SO₄		G Methano	ol .			
Date Time	Date		Time	¥	B Sam	ple filtere	a— D 1	INO <sub>3</sub>	FF	HCL		H Water/Na	aHSO4 (circle)		den en	
(N				Pre	sumptive	e Certain	ty Data Pac	kage (Labo	ratory to 1	ise appl	icable D	EP CAM me	ethods)			
If Presumptive Certainty Data				CAN 1071										Required Reporting Limits an	d Data Quali	ty Objectives
The required minin Matrix Spike (MS)	samples for MCP	mes, as design Metals and/o	r Cvanide are i	nchided and	identified	or Will be berein	conected, as	appropriate	, to meet th	ie requir	ements o	rresumptive	e Certainty.	ØRC-S1	□ sı	□ gw₁
Matrix Spike (MS) This Chain of Custo	ody Record (specif	fy)	includes	does	not inclu	ide sampli	es defined as	Drinkine W	ater Samol	les.				□ RC-S2		□ GW2
												. 4	emic	□ RC-GW1	□ S3	□ GW3
If this Chain of Cus as appropriate. Lab	oratory should (sp	ecify if applic	cable)	analyz	oampies,	rub man	and Field	Duplicates i	ue inciude	u and ide	entitied a	nu analysis of	r 11Cs are required,	□ RC-GW2		
			WHITE -	T -1		012112	- Project Man							<u> </u>		
Form 3003			WHITE-	renotatory.	,	CANARX	- rroject Man	ager	PINK -	rialey &	Aldrich L	aboratory			23	C AUGUST 2008
POINT 3003															200	

M96226: Chain of Custody Page 1 of 5



Bo	ite 2200, ston, MA 02	t., 2129-1400				CI	HA.	IN (	OF (	CUS	TO	DY F	RECOR	D	Fax (617) 886-760 Page 2 of
	313-502					LABO	RATO	RY	Acc	JTES	ĭ		DELIVE	RY DATE	1120116
PROJECT NAME FORMER	ENERCY	YINTE	RNATION	AL PAR	ندنزك	ADDRESS MAKUROROUCH INTA						OUND TIME			
	SULLNIE					CONT	ACT			Car			PROJECT		C. NIETHY
					T				An	alysis Rec	uested				
. ac 190.	Date	Time	Depth	Туре	VOA	ABNs PAH osly	MCP Metals	PCBs VPH Full Stute	C-ranges only EPH Full Suite C-ranges only	TPH (specify)	Reactivity Ignitability Corrosivity		Number of Containers		Comments tions, additional method numbers
	11/30/10	1000	2-4	SOIL	Π		•	$\times$					i i	Laboratory to use applicabl	e DEP CAM methods, unless othe
HA109-46'	İ	1025	4-6	-				*					T-1-1		directed.
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m H+A	Firm			1.1 00									Plastic Bottle	**************************************	
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linquished by	Receiv	ed by					ľ		-	1000000			Preservative	Evidence samples were tampe	ed with? YES NO
gn .	Sign				i i	ĺ	40	Ł					Volume	If YES, please explain in section	n below.
nt	Print			- 1					PRESE	RVATIO	N KEY				
m.	Firm			1	A Sam	ple chille	d]	C NaOH		E H <sub>2</sub> S	04	G Methan	ol		
te Time	Date	·····	Time			ple filtere		D HNO <sub>3</sub>		F HCL			VaHSO4 (circle)		
resumptive Certainty Data Packs	ge is needed.	initial all se	ctions:	Pres	umptiv	e Certair	nty Data	Package :	(Laborato	ry to use	pplicable I	DEP CAM m	ethods)	In	
The required minimum fie				AM-VII ha	ve been	or will be	e collecte	d, as appro	priate, to	meet the re	quirements o	of Presumption	ve Certainty.	Required Reporting Limits and	Data Quality Objectives
Matrix Spike (MS) sampl	es for MCP M	etals and/or (	Cyanide are inc	luded and is	lentified	herein.								ÆRC-SI	□ S1 □ GW1
This Chain of Custody Re	cord (specify)		_includes	does :	not inclu	de sampl	les define	d as Drink	ing Water	Samples.				□ RC-S2	□ S2 □ GW2
If this Chain of Custody F as appropriate. Laborator	Record identifi y should (spec	es samples de ify if applicai	efined as Drink ble)	ing Water S analyz	amples,	Trip Blar	nks and I	ield Dupli	cates are i	ncluded an	d identified :	and analysis	of TICs are required,	□ RC-GW1 □ RC-GW2	□ S3 □ GW3

M96226: Chain of Custody Page 2 of 5



HALEY 62 465 ALDRICH Sui	ey & Aldrich, Inc. Medford St., le 2200, ton, MA 02129-1400	СН	AIN OF	CUSTODY	Y RECOR	D	Phone Fax Page	(617) 886-740 (617) 886-760
H&A FILE NO. <u>Ô (</u> (	318-502	LABOR/	ATORY ACCUT	FSI	DELIVER	Y DATE	111301	
PROJECT NAME FORMER	ENERGY INTERNATION	AL PARCEL ADDRES	SS MAKL	ECROVETH, MA	TURNAR	DUND TIME	AC OF	4
H&A CONTACT	KULLMAN	CONTAC	CT TWO	receptation V	CHE DEROJECT	MANAGER	c. We	VHTS
			Aı	alysis Requested				
Sample No.	Date Time Depth	Type VOA	Peaticides PCBs PCBs PCBs PCBs PCBs PCBs PBd Pdl Suite Pdl Suite C-rauges only	TPH (specify) TCLP (specify) Reactivity Ignitability Corrostvity	Number of Containers	(special instructions, pre	Comments ecautions, additions	l method numbers
HA108_ 4-6'	11/30/10 1305 4-6	SOIL	×			Laboratory to use applic		ethods, unless othe
AA 108_ 6-8'	1 1300 6-8		X.				directed.	
HA108_ 8-10'	1340 8-10		V		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	() PCBS		
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HA108 _ 10:3		3-10-75				~		
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14107 0-2	1405 0	-2 4	<u> </u>					
HA167_2-4'	1410 24		<i>/</i> S		1 1	.]		
11A107_4-61	1445 4.6	1 1	<i>/</i> S <sub>2</sub>					
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HAID 4 - 8-10"	V 1500 8-10	<b></b>				•		
ampled and Relinquished by	Received by		7 13 1	LIOUID (10)	TOTAL	Sampling Comments		
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rint MATHEW DODSON	Sign War mos	. N			Amber Glass	* Hold all	Sample	s vellorus
m H+A		·			Plastic Bottle			
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elinquished by	Received by	<u>-                                    </u>			Volume			
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m (n (n (n (n (n (n (n (n (n (n (n (n (n	Firm				Amber Glass			Medical distribution of the process of the contract of the con
ate//-D-/O Time	Date //-30-10 Time /6	30	- X ·		Clear Glass			
linquished by	Received by		A		Preservative	Evidence samples were tax	npered with? YE	S NO
gu.	Sign		402		Volume	If YES, please explain in se	ection below.	710 Table 1
int	Print		PRES	ERVATION KEY				
TID.	Firm	A Sample chilled	C NaOH	E H <sub>2</sub> SO <sub>4</sub> G	Methanol			***************************************
ite Time	Date Time	B Sample filtered	p HNO <sub>3</sub>		Water/NaHSO4 (circle)	<u> </u>		
Presumptive Certainty Data Pack	age is wooded builtief all coeffee	Presumptive Certainty	Data Package (Laborat	ory to use applicable DEP (	CAM methods)			
/- ·	eld QC samples, as designated in BWSC C	AM-VII have been or will be co	ollected as appropriete to	meet the requirements of Pos	essemptive Certainty	Required Reporting Limits	s and Data Quality	Objectives
	es for MCP Metals and/or Cyanide are inc		one appropriate, to	most are requirements of 110	comments Containing,	Ø RC-SI	□ s1	□ <sub>GW1</sub>
	ecord (specify)includes		defined as Drinking Wate	r Samples.		□ RC-S2	□ S2	□ GW2
This Chain of Custody R	- Jynu	•		-		□ RC-GW1	□ S3	□ GW3
	Pacord identifies complex defined D-i-1-	ing Water Camples Tale District	and Birth Doublest	talanda di andi danada i i i i i i	and the second s	KC-G#1	<b>—</b> 33	LI GW3
If this Chain of Custody	Record identifies samples defined as Drink y should (specify if applicable)	ing Water Samples, Trip Blanks analyz	s and Field Duplicates are	included and identified and a	nalysis of TICs are required,	□ RC-GW2	L 33	□ GW3

M96226: Chain of Custody Page 3 of 5



HALEY Suit Bost	ey & Aldric Medford St te 2200, ton, MA 02	t., 129-1400				C	HA	IN	OF	F C	US'	ТО	DY	R	ECOR	RD .	Phone Fax Page	MGG226 (617) 886-740 (617) 886-760
PROJECT NAME FOR NEW	0318- 3 ENE 3 KUL	RGVI	UTERN	ATION?	e par	LABO ADDI CONT	ORATO RESS FACT		AC MAI		EST BORD BBO	uct	ζM/	1-	TURNAI	RY DATE ROUND TIME T MANAGER	100	
	1 1 1	~ 1 1 1 1			T	00111					is Requ				rkosec	.1 MANAGER		VOKITY
Sample No.	Date	Time	Depth	Туре	VOA	ABNs PAH only	MCP Metals	Pessicides PCBs	VPH Full Suite C-ranges only EPH	南鱼					Number of Container		Comments precautions, addition	al method numbers
HAIO7_10-11 1 HA IO7_12-145 HRIO7_145-16	ii/zolie V	453  525  520	10:12  2:14:5  45;16	SOF				Ž								Laboratory to use ap	oplicable DEP CAM a directed.	nethods, unless other
Sampled and Relinquished by	Recei	ved by	<u> </u>		1					Li	QUID	1 1	7	310	OTAT \	Sampling Comments		
Frint MATTHEW 60050 K Frim HY A Date 11/48/10 Time 154	Firm		mo ne mo												VQA-Vial  Amber Glass  Plastic Bottle  Preservative	y Holo al	l sampl	es below
Relinquished by	Receiv	ved by					1				i.				Volume			emine dynamical Paral Majerrend 2
10 Wan mons	Sign	may	-ma	<u> </u>				110000		se	OLID							***************************************
rint	Print	•		-											VOA Vial			
irm	Firm		,,								1				Amber Glass			
ate 1/- 30-/0 Time			Time /6	,30				X A			ĺ	ļ.	ļ.		Clear Glass			
linquished by	Receiv	ed by			i e i remedicindo						<u> </u>	l			Preservative	Evidence samples were	tampered with? Y	ES NO
gn	Sign						4	02		- l			1		Volume	If YES, please explain	n section below.	
int	Print								PR	ESERV	ATION	KEY						
m	Firm				A Sam	ple chille	ed	C N	аOН	E	H <sub>2</sub> SO <sub>4</sub>		G M	fethanol				
te Time	Date	***************************************	Time		B Sam			рΗ			HCL				HSO4 (circle)			
Presumptive Certainty Data Packa	ge is needed	initial all co	ections:	Pre:	sumptiv	e Certai	nty Dat	ta Pack	age (Labo	ratory t	o use ap	plicable l	DEP C	AM met	hods)	In		-
The required minimum flei Matrix Spike (MS) sample This Chain of Custody Rec	ld QC sample s for MCP M	s, as designa letals and/or	ated in BWSC C Cyanide are inc	CAM-VII hat cluded and i	dentified	herein.						iirements	of Presi	umptive	Certainty.	Required Reporting Lin	mits and Data Quality  Si  S2	Objectives  GW1 GW2
If this Chain of Custody Re as appropriate. Laboratory	ecord identifi y should (spec	es samples d	lefined as Drink able)	ing Water S analyz	samples,	Trip Bla	anks and	d Field I	Duplicates	are inclu	ded and	identified	and ans	alysis of	TICs are required	□ RC-GW1 □ RC-GW2	□ <sub>\$3</sub>	□ GW3
Form 3003			WHITE - L	aboratory	-	CANAR	Y - Proje	ect Mana	ger	PINE	C - Haley	& Aldrich	Laborate	ory			2,3°€	AUGUST 2008

M96226: Chain of Custody Page 4 of 5



922962

Frank D'Agostino

Parkin Kullmann, Jane [jkullmann@haleyaldrich.com] From:

Monday, December 13, 2010 2:14 PM Sent:

Frank D'Agostino

Subject: Energy International PCB soil analyses follow-up

those sample locations specifically (i.e., HA-111, HA-112, and HA-113), as well as the additional samples that we where the results were not yet reported, we would just like to report the results for PCB analyses of soil from 0are analyzing for PCBs from 0-2 and 2-4 ft bgs from those same boring locations. For any other boring locations I talked with my Project Manager for the Energy International project again, and he thought since the analyses were already conducted, that we should include in the report the results for the samples 8 feet and below for 2 and 2-4 ft bgs.

Let me know if you have any further questions or need any clarification about the analyses.

Thanks,

Jane

Jane A. Parkin Kullmann Staff Engineer HALEY & ALDRICH 465 Medford Street, Suite 2200 Boston, MA 02129-1400 Tel: 617, 886, 7354 Fax: 617, 886, 7654 Cell: 847, 370, 3018

Email: jkullmann@HaleyAldrich.com www.HaleyAldrich.com

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12/13/2010



# Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup

WSC-CAM	Exhibit VII A
July 1, 2010	Revision No. 1
Final	Page 13 of 38

### Exhibit VII A-2: MassDEP Analytical Protocol Certification Form

	Ма	ssDEP Analytica	l Proto	col Certific	atio	n Form							
Laboratory Name:	Accutest Laboratorie	es of New England				Project #:	M9622	26					
Project Location:	Former Energy Inter	national Parcel, M	A			MADEP RTN	None						
M96226-1, M96226-	his form provides certifications for the following data set: list Laboratory Sample ID Numbers(s) M96226-1, M96226-2, M96226-10, M96226-11, M96226-19, M96226-20, M96226-26, M96226-27 M96226-4, M96226-13, M96226-22, M96226-29												
Matrices: Groundwate  CAM Protocol (check all that	• • • • • • • • • • • • • • • • • • • •	Soil/Sediment (	(X) Drink	king Water	()	Air ()			Other	()			
8260 VOC () CAM IIA	7470/7471 Hg ()	MassDEP VPH CAM IV A	` '	1 Pesticides	()	7196 Hex Cr CAM VI B	()		Mass DEP APH	()			
8270 SVOC () CAM II B	8270 SVOC () 7010 Metals () MassDEP EPH () 8151 Herbicides () 8330 Explosive								TO-15 VOC CAM IX B	()			
6010 Metals ( ) CAM III A	6020 Metals () CAM III D	8082 PCB ( CAM V A	, ,	4 Total nide/PAC 1 VI A	()	6860 Perchlorate CAM VIII B	()						
Affirmative Respon	ses to Questions A	Through F are req	quired f	or "Presum	ıptiv	e Certainty status	;						
Were all samples received in a condition consistent with those described on the Chain-of Custody,  A properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?													
B protocol(s) followed?	nethod(s) and all asso	•					<b>V</b>	Yes	☐ No				
· ·	ited for all identified pe			•		selected CAIVI	<b>V</b>	Yes	□No				
· · ·	eport comply with all t ind Quality Control Gu al Data"?			•	n CA	M VII A,	7	Yes	□No				
	d TO-15 only: PH Methods only: Wa fer to the individual m			•			<b>V</b>	Yes	□No				
b. APH and TO-15 M	lethods only: Was the	complete analyte	list repo	orted for eac	ch m	ethod?	<b>V</b>	Yes					
1 1 ''	CAM protocol QC and boratory narrative (inc	•					✓ ————————————————————————————————————	Yes	∐No				
Responses to ques	tions G, H, and I belo	ow is required for	"Presu	ımptive Ce	rtain	nty" status							
G Were the reporting lin	mits at or below all CA	M reporting limits	specifie	ed in the			<b>V</b>	Yes	☐ No ¹				
and representativer	ta that achieve "Pres ness requirements d	escribed in 310 C	MR 40.	1056(2)(k) a	and '		data u	seab					
H Were all QC perform								Yes					
1	d for the complete and	•					<b>✓</b>	Yes	□ No ¹				
I the undersigned, attest inquiry of those respons	All Negative responses must be addressed in an attached Environmental Laboratory case narrative.  I the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.												
Signature:	m fall	/		ition:		boratory Director							
Printed Name:	Reza Tand		Date			12/18/2010							



### **Internal Sample Tracking Chronicle**

Haley & Aldrich

Job No: M96226

Former Energy International Parcel, MA Project No: 06318-502

Sample Number	Method	Analyzed	Ву	Prepped	Ву	Test Codes
M96226-1 HA110_0-2	Collected: 30-NOV-10	08:00 By: MD	Receiv	ved: 30-NOV	-10 By	r: JB
	SM21 2540 B MOD. SW846 8082	13-DEC-10 18-DEC-10 09:37	HS CZ	13-DEC-10	AJ	% SOL P8082SOXHLET
M96226-2 HA110_2-4	Collected: 30-NOV-10	08:00 By: MD	Receiv	ved: 30-NOV	-10 By	r: JB
	SM21 2540 B MOD. SW846 8082	13-DEC-10 18-DEC-10 10:13	HS CZ	13-DEC-10	AJ	% SOL P8082SOXHLET
M96226-4 HA110_6-8	Collected: 30-NOV-10	08:35 By: MD	Receiv	ved: 30-NOV	-10 By	r: JB
	SM21 2540 B MOD. SW846 8082	03-DEC-10 06-DEC-10 04:44	HS AP	03-DEC-10	ВЈ	% SOL P8082SOXHLET
M96226-10 HA109_0-2	Collected: 30-NOV-10	10:00 By: MD	Receiv	ved: 30-NOV	-10 By	7: JB
	SM21 2540 B MOD. SW846 8082	13-DEC-10 17-DEC-10 09:08	HS CZ	13-DEC-10	AJ	% SOL P8082SOXHLET
M96226-11 HA109_2-4	Collected: 30-NOV-10	10:00 By: MD	Receiv	ved: 30-NOV	-10 By	r: JB
	SM21 2540 B MOD. SW846 8082	13-DEC-10 17-DEC-10 10:49	HS CZ	13-DEC-10	AJ	% SOL P8082SOXHLET
M96226-13 HA109_6-8	Collected: 30-NOV-10	10:35 By: MD	Receiv	ved: 30-NOV	-10 By	r: JB
	SM21 2540 B MOD. SW846 8082	03-DEC-10 06-DEC-10 07:22	HS AP	03-DEC-10	ВЈ	% SOL P8082SOXHLET
M96226-19 HA108_0-2	Collected: 30-NOV-10	12:20 By: MD	Receiv	ved: 30-NOV	-10 By	r: JB
M96226-19	SM21 2540 B MOD.	13-DEC-10	HS			% SOL

### **Internal Sample Tracking Chronicle**

Haley & Aldrich

Job No: M96226

Former Energy International Parcel, MA Project No: 06318-502

Sample Number	Method	Analyzed	Ву	Prepped	Ву	Test Codes
M96226-19	SW846 8082	17-DEC-10 11:42	CZ	13-DEC-10	AJ	P8082SOXHLET
M96226-20 HA108_2-4	Collected: 30-NOV-10	12:25 By: MD	Receiv	red: 30-NOV	-10 By	y: JB
	SM21 2540 B MOD. SW846 8082	13-DEC-10 17-DEC-10 12:32	HS CZ	13-DEC-10	AJ	% SOL P8082SOXHLET
M96226-22 HA108_6-8	Collected: 30-NOV-10	13:00 By: MD	Receiv	red: 30-NOV	-10 By	r: JB
	SM21 2540 B MOD. SW846 8082	03-DEC-10 06-DEC-10 09:59	HS AP	03-DEC-10	ВЈ	% SOL P8082SOXHLET
M96226-26 HA107_0-2	Collected: 30-NOV-10	14:05 By: MD	Receiv	red: 30-NOV	-10 By	: JB
	SM21 2540 B MOD. SW846 8082	13-DEC-10 17-DEC-10 13:30	HS CZ	13-DEC-10	AJ	% SOL P8082SOXHLET
M96226-27 HA107_2-4	Collected: 30-NOV-10	14:10 By: MD	Receiv	ed: 30-NOV	-10 By	: JB
	SM21 2540 B MOD. SW846 8082	13-DEC-10 17-DEC-10 14:13	HS CZ	13-DEC-10	AJ	% SOL P8082SOXHLET
M96226-29 HA107_6-8	Collected: 30-NOV-10	14:40 By: MD	Receiv	red: 30-NOV	-10 By	: JB
	SM21 2540 B MOD. SW846 8082	03-DEC-10 06-DEC-10 11:34	HS AP	03-DEC-10	ВЈ	% SOL P8082SOXHLET





### GC Semi-volatiles

### QC Data Summaries

### Includes the following where applicable:

- · Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

**Method:** SW846 8082

## Ç

### **Method Blank Summary**

Job Number: M96226

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP23523-MB	BE22756.D	1	12/06/10	AP	12/03/10	OP23523	GBE1365

### The QC reported here applies to the following samples:

M96226-4, M96226-13, M96226-22, M96226-29

CAS No.	Compound	Result	RL	Units Q
12674-11-2	Aroclor 1016	ND	99	ug/kg
11104-28-2	Aroclor 1221	ND	99	ug/kg
11141-16-5	Aroclor 1232	ND	99	ug/kg
53469-21-9	Aroclor 1242	ND	99	ug/kg
12672-29-6	Aroclor 1248	ND	99	ug/kg
11097-69-1	Aroclor 1254	ND	99	ug/kg
11096-82-5	Aroclor 1260	ND	99	ug/kg
37324-23-5	Aroclor 1262	ND	99	ug/kg
11100-14-4	Aroclor 1268	ND	99	ug/kg

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	109%	30-150%
877-09-8	Tetrachloro-m-xylene	107%	30-150%
2051-24-3	Decachlorobiphenyl	97%	30-150%
2051-24-3	Decachlorobiphenyl	92%	30-150%

**Method:** SW846 8082

### **Method Blank Summary**

Job Number: M96226

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA **Project:** 

Sample OP23621-MB	File ID YZ62990.D	<b>DF</b> 1	<b>Analyzed</b> 12/15/10	By CZ	<b>Prep Date</b> 12/13/10	Prep Batch OP23621	Analytical Batch GYZ2675

### The QC reported here applies to the following samples:

M96226-1, M96226-2, M96226-10, M96226-11, M96226-19, M96226-20, M96226-26, M96226-27

CAS No.	Compound	Result	RL	Units Q
12674-11-2	Aroclor 1016	ND	98	ug/kg
11104-28-2	Aroclor 1221	ND	98	ug/kg
11141-16-5	Aroclor 1232	ND	98	ug/kg
53469-21-9	Aroclor 1242	ND	98	ug/kg
12672-29-6	Aroclor 1248	ND	98	ug/kg
11097-69-1	Aroclor 1254	ND	98	ug/kg
11096-82-5	Aroclor 1260	ND	98	ug/kg
37324-23-5	Aroclor 1262	ND	98	ug/kg
11100-14-4	Aroclor 1268	ND	98	ug/kg

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	93%	30-150%
877-09-8	Tetrachloro-m-xylene	91%	30-150%
2051-24-3	Decachlorobiphenyl	97%	30-150%
2051-24-3	Decachlorobiphenyl	98%	30-150%



**Method:** SW846 8082

### **Blank Spike Summary**

Job Number: M96226

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA **Project:** 

Sample OP23621-BS	File ID YZ62991.D	<b>DF</b> 1	<b>Analyzed</b> 12/15/10	By CZ	<b>Prep Date</b> 12/13/10	Prep Batch OP23621	Analytical Batch GYZ2675

The QC reported here applies to the following samples:

M96226-1, M96226-2, M96226-10, M96226-11, M96226-19, M96226-20, M96226-26, M96226-27

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
12674-11-2	Aroclor 1016	251	257	103	40-140
11104-28-2	Aroclor 1221		ND		40-140
11141-16-5	Aroclor 1232		ND		40-140
53469-21-9	Aroclor 1242		ND		40-140
12672-29-6	Aroclor 1248		ND		40-140
11097-69-1	Aroclor 1254		ND		40-140
11096-82-5	Aroclor 1260	251	268	107	40-140
37324-23-5	Aroclor 1262		ND		40-140
11100-14-4	Aroclor 1268		ND		40-140

CAS No.	<b>Surrogate Recoveries</b>	BSP	Limits
877-09-8	Tetrachloro-m-xylene	94%	30-150%
877-09-8	Tetrachloro-m-xylene	95%	30-150%
2051-24-3	Decachlorobiphenyl	98%	30-150%
2051-24-3	Decachlorobiphenyl	99%	30-150%

**Method:** SW846 8082

### Blank Spike/Blank Spike Duplicate Summary

Job Number: M96226

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	<b>DF</b> 1 1	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP23523-BS	BE22757.D		12/06/10	AP	12/03/10	OP23523	GBE1365
OP23523-BSD	BE22758.D		12/06/10	AP	12/03/10	OP23523	GBE1365

The QC reported here applies to the following samples:

M96226-4, M96226-13, M96226-22, M96226-29

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	265	301	114	312	118	4	40-140/30
11104-28-2	Aroclor 1221		ND		ND		nc	40-140/30
11141-16-5	Aroclor 1232		ND		ND		nc	40-140/30
53469-21-9	Aroclor 1242		ND		ND		nc	40-140/30
12672-29-6	Aroclor 1248		ND		ND		nc	40-140/30
11097-69-1	Aroclor 1254		ND		ND		nc	40-140/30
11096-82-5	Aroclor 1260	265	285	108	289	109	1	40-140/30
37324-23-5	Aroclor 1262		ND		ND		nc	40-140/30
11100-14-4	Aroclor 1268		ND		ND		nc	40-140/30

CAS No.	<b>Surrogate Recoveries</b>	BSP	BSD	Limits
877-09-8	Tetrachloro-m-xylene	105%	108%	30-150%
877-09-8	Tetrachloro-m-xylene	101%	107%	30-150%
2051-24-3	Decachlorobiphenyl	100%	102%	30-150%
2051-24-3	Decachlorobiphenyl	96%	96%	30-150%

### Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96226

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA **Project:** 

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP23523-MS	BE22759.D	1	12/06/10	AP	12/03/10	OP23523	GBE1365
OP23523-MSD	BE22760.D	1	12/06/10	AP	12/03/10	OP23523	GBE1365
M96226-4	BE22761.D	1	12/06/10	AP	12/03/10	OP23523	GBE1365

The QC reported here applies to the following samples: **Method:** SW846 8082

M96226-4, M96226-13, M96226-22, M96226-29

CAS No.	Compound	M96226-4 ug/kg Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	ND	310	334	108	328	107	2	40-140/50
11104-28-2	Aroclor 1221	ND		ND		ND		nc	40-140/50
11141-16-5	Aroclor 1232	ND		ND		ND		nc	40-140/50
53469-21-9	Aroclor 1242	ND		ND		ND		nc	40-140/50
12672-29-6	Aroclor 1248	ND		ND		ND		nc	40-140/50
11097-69-1	Aroclor 1254	ND		ND		ND		nc	40-140/50
11096-82-5	Aroclor 1260	74.2	310	583	164* a	351	91	50	40-140/50
37324-23-5	Aroclor 1262	ND		ND		ND		nc	40-140/50
11100-14-4	Aroclor 1268	ND		ND		ND		nc	40-140/50

CAS No.	<b>Surrogate Recoveries</b>	MS	MSD	M96226-4	Limits
877-09-8	Tetrachloro-m-xylene	158% * a	94%	98%	30-150%
877-09-8	Tetrachloro-m-xylene	99%	105%	96%	30-150%
2051-24-3	Decachlorobiphenyl	163% * a	94%	101%	30-150%
2051-24-3	Decachlorobiphenyl	172% * a	94%	117%	30-150%

(a) Outside control limits due to possible matrix interference.

**Method:** SW846 8082

### Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96226

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA Project:

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP23621-MS	YZ62992.D	1	12/15/10	CZ	12/13/10	OP23621	GYZ2675
OP23621-MSD	YZ62993.D	1	12/15/10	CZ	12/13/10	OP23621	GYZ2675
M96200-1	YZ62994.D	1	12/15/10	CZ	12/13/10	OP23621	GYZ2675

The QC reported here applies to the following samples:

M96226-1, M96226-2, M96226-10, M96226-11, M96226-19, M96226-20, M96226-26, M96226-27

CAS No. Co	Compound	M96200-1 ug/kg Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
12674-11-2 A	roclor 1016	ND	287	280	98	227	78	21	40-140/50
11104-28-2 A	roclor 1221	ND		ND		ND		nc	40-140/50
11141-16-5 A	croclor 1232	ND		ND		ND		nc	40-140/50
53469-21-9 A	roclor 1242	ND		ND		ND		nc	40-140/50
12672-29-6 A	roclor 1248	ND		ND		ND		nc	40-140/50
11097-69-1 A	croclor 1254	ND		ND		ND		nc	40-140/50
11096-82-5 A	roclor 1260	ND	287	294	102	235	81	22	40-140/50
37324-23-5 A	roclor 1262	ND		ND		ND		nc	40-140/50
11100-14-4 A	roclor 1268	ND		ND		ND		nc	40-140/50

CAS No.	<b>Surrogate Recoveries</b>	MS	MSD	M96200-1	Limits
877-09-8	Tetrachloro-m-xylene	87%	83%	89%	30-150%
877-09-8	Tetrachloro-m-xylene	60%	84%	77%	30-150%
2051-24-3	Decachlorobiphenyl	442%* a	505% * a	367% * a	30-150%
2051-24-3	Decachlorobiphenyl	122%	139%	126%	30-150%

(a) Outside control limits due to possible matrix interference.

### **Semivolatile Surrogate Recovery Summary**

Job Number: M96226

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA Project:

**Method:** SW846 8082 Matrix: SO

### Samples and QC shown here apply to the above method

Lab	Lab				
Sample ID	File ID	<b>S1</b> <sup>a</sup>	<b>S1</b> b	<b>S2</b> a	<b>S2</b> b
M96226-1	YZ63145.D	112.0	123.0	150.0	85.0
M96226-2	YZ63147.D	101.0	69.0	489.0* <sup>c</sup>	149.0
M96226-4	BE22761.D	98.0	96.0	101.0	117.0
M96226-10	YZ63083.D	74.0	85.0	438.0* <sup>c</sup>	30.0
M96226-11	YZ63086.D	91.0	55.0	517.0* c	113.0
M96226-13	BE22768.D	72.0	77.0	71.0	75.0
M96226-19	YZ63088.D	97.0	94.0	607.0* c	140.0
M96226-20	YZ63090.D	92.0	121.0	231.0* c	130.0
M96226-22	BE22775.D	106.0	106.0	104.0	106.0
M96226-26	YZ63092.D	110.0	77.0	488.0* c	145.0
M96226-27	YZ63094.D	101.0	128.0	388.0* c	147.0
M96226-29	BE22779.D	93.0	89.0	90.0	88.0
OP23523-BS	BE22757.D	105.0	101.0	100.0	96.0
OP23523-BSD	BE22758.D	108.0	107.0	102.0	96.0
OP23523-MB	BE22756.D	109.0	107.0	97.0	92.0
OP23523-MS	BE22759.D	158.0* c	99.0	163.0* c	172.0* c
OP23523-MSD	BE22760.D	94.0	105.0	94.0	94.0
OP23621-BS	YZ62991.D	94.0	95.0	98.0	99.0
OP23621-MB	YZ62990.D	93.0	91.0	97.0	98.0
OP23621-MS	YZ62992.D	87.0	60.0	442.0* c	122.0
OP23621-MSD	YZ62993.D	83.0	84.0	505.0* c	139.0

Surrogate Compounds Recovery Limits

S1 = Tetrachloro-m-xylene30-150% S2 = Decachlorobiphenyl 30-150%

- (a) Recovery from GC signal #1
- (b) Recovery from GC signal #2
- (c) Outside control limits due to possible matrix interference.





12/18/10



### Technical Report for

Haley & Aldrich

Former Energy International Parcel, MA

06318-502

Accutest Job Number: M96256

Sampling Date: 12/01/10

### Report to:

Haley & Aldrich

jkullmann@haleyaldrich.com

ATTN: Jane Kullmann

Total number of pages in report: 39



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Client Service contact: Kristen Blanchard 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) ISO 17025:2005 (L2235) This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories. Test results relate only to samples analyzed.



Lab Director

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### **Sample Summary**

Haley & Aldrich

Job No: M96256

Former Energy International Parcel, MA Project No: 06318-502

Sample Number	Collected Date	Time By	Received	Matri Code		Client Sample ID
M96256-1	12/01/10	08:15 MD	12/01/10	SO	Soil	HA106_0-2'
M96256-2	12/01/10	08:10 MD	12/01/10	SO	Soil	HA106_2-4'
M96256-4	12/01/10	08:45 MD	12/01/10	SO	Soil	HA106_6-8'
M96256-5	12/01/10	09:25 MD	12/01/10	SO	Soil	HA106_8-10'
M96256-6	12/01/10	09:20 MD	12/01/10	SO	Soil	HA106_10-12'
M96256-7	12/01/10	09:00 MD	12/01/10	SO	Soil	HA106_12-14'
M96256-8	12/01/10	14:05 MD	12/01/10	SO	Soil	HA105_0-2'
M96256-9	12/01/10	14:00 MD	12/01/10	SO	Soil	HA105_2-4'
M96256-11	12/01/10	10:25 MD	12/01/10	SO	Soil	HA103_0-2'
M96256-12	12/01/10	10:20 MD	12/01/10	SO	Soil	HA103_2-4'
M96256-14	12/01/10	10:40 MD	12/01/10	SO	Soil	HA103_6-8'
M96256-15	12/01/10	11:05 MD	12/01/10	SO	Soil	HA103_8-10'
M96256-16	12/01/10	11:00 MD	12/01/10	SO	Soil	HA103_10-12'

Soil samples reported on a dry weight basis unless otherwise indicated on result page.





# Sample Summary (continued)

Haley & Aldrich

Job No: M96256

Former Energy International Parcel, MA Project No: 06318-502

Sample Number	Collected Date	Time By	Received	Matri Code		Client Sample ID
M96256-17	12/01/10	11:15 MD	12/01/10	SO	Soil	HA103_12-13.5'
M96256-18	12/01/10	11:20 MD	12/01/10	SO	Soil	HA103_13.5-16'
M96256-19	12/01/10	12:20 MD	12/01/10	SO	Soil	HA104_0-2'
M96256-20	12/01/10	12:15 MD	12/01/10	SO	Soil	HA104_2-4'
M96256-22	12/01/10	12:50 MD	12/01/10	SO	Soil	HA104_6-8'
M96256-23	12/01/10	13:05 MD	12/01/10	SO	Soil	HA104_8-10'
M96256-24	12/01/10	13:00 MD	12/01/10	SO	Soil	HA104_10-12'
M96256-25	12/01/10	13:25 MD	12/01/10	SO	Soil	HA104_13.2-15'
M96256-26	12/01/10	14:10 MD	12/01/10	SO	Soil	HA105_6-8'
M96256-27	12/01/10	14:35 MD	12/01/10	SO	Soil	HA105_8-10'
M96256-28	12/01/10	14:40 MD	12/01/10	SO	Soil	HA105_10-12.2'
M96256-29	12/01/10	14:45 MD	12/01/10	SO	Soil	HA105_12.2-14'

Soil samples reported on a dry weight basis unless otherwise indicated on result page.





#### SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Haley & Aldrich Job No M96256

Site: Former Energy International Parcel, MA Report Date 12/18/2010 6:29:42 PM

12 Sample(s) were collected on 12/01/2010 and were received at Accutest on 12/01/2010 properly preserved, at 2.1 Deg. C and intact. These Samples received an Accutest job number of M96256. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

#### Extractables by GC By Method SW846 8082

Matrix SO Batch ID: OP23542

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96297-1MS, M96297-1MSD were used as the QC samples indicated.

Matrix SO Batch ID: OP23548

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) M96256-26MS, M96256-26MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Matrix SO Batch ID: OP23622

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96288-1MS, M96288-1MSD were used as the QC samples indicated.
- M96256-19 for Tetrachloro-m-xylene: Outside control limits due to dilution.
- M96256-19 for Decachlorobiphenyl: Outside control limits due to possible matrix interference.
- RPD of OP23622-MSD for Aroclor 1254: Outside control limits due to possible matrix interference.
- M96256-12 for Decachlorobiphenyl: Estimated value due to the presence of other Arochlor pattern.
- M96256-9 for Aroclor 1248: Estimated value due to the presence of other Arochlor pattern.
- M96256-8, M96256-11, M96256-19, M96256-20 for Decachlorobiphenyl: Outside control limits due to possible matrix interference.
- M96256-8, M96256-11, OP23622-MS /MSD for Tetrachloro-m-xylene: Outside control limits due to possible matrix interference.
- M96256-9, M96256-12, M96256-20 for Aroclor 1260: Estimated value due to the presence of other Arochlor pattern.

#### Wet Chemistry By Method SM21 2540 B MOD.

		, 25 1:1001130 21:121 2		
	Matrix	SO	Batch ID:	GN33609
-	Sample(s) M96	200-13DUP were used as the	QC samples f	for Solids, Percent.
	Matrix	SO	Batch ID:	GN33610
-	Sample(s) M96	256-22DUP were used as the	QC samples f	for Solids, Percent.
	Matrix	SO	Batch ID:	GN33702
-	Sample(s) M96	200-2DUP were used as the	QC samples fo	or Solids, Percent.
	Matrix	SO	Batch ID:	GN33703
$\overline{}$				

<sup>■</sup> Sample(s) M96541-5DUP were used as the QC samples for Solids, Percent.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety. The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(M96256).



Sample Results	
Report of Analysis	



 Client Sample ID:
 HA106\_0-2'

 Lab Sample ID:
 M96256-1

 Matrix:
 SO - Soil

**Method:** SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA

Date Sampled: 12/01/10
Date Received: 12/01/10
Percent Solids: 94.9

File ID DF **Prep Date Analytical Batch** Analyzed By **Prep Batch** Run #1 YZ63057.D 1 12/16/10 CZ12/13/10 OP23622 GYZ2677 Run #2

Run #1 16.0 g 10.0 ml
Run #2

#### **PCB** List

CAS No.	Compound	Result	RL	Units Q
12674-11-2 11104-28-2	Aroclor 1016 Aroclor 1221	ND ND	99 99	ug/kg ug/kg
11141-16-5	Aroclor 1232	ND	99	ug/kg
53469-21-9 12672-29-6	Aroclor 1242 Aroclor 1248	ND ND	99 99	ug/kg ug/kg
11097-69-1	Aroclor 1254	ND	99	ug/kg
11096-82-5 37324-23-5	Aroclor 1260 Aroclor 1262	ND ND	99 99	ug/kg ug/kg
11100-14-4	Aroclor 1268	ND	99	ug/kg
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	40%		30-150%
877-09-8	Tetrachloro-m-xylene	31%		30-150%
2051-24-3	Decachlorobiphenyl	148%		30-150%
2051-24-3	Decachlorobiphenyl	114%		30-150%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



### **Report of Analysis**

Client Sample ID: HA106\_2-4'
Lab Sample ID: M96256-2
Matrix: SO - Soil

**Method:** SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA

Date Sampled: 12/01/10
Date Received: 12/01/10
Percent Solids: 81.6

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 YZ63134.D 1 12/18/10 CZ12/13/10 OP23622 GYZ6278 Run #2

**Initial Weight** Final Volume 15.1 g 10.0 ml

Run #1 Run #2

#### **PCB List**

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	120	ug/kg	
11104-28-2	Aroclor 1221	ND	120	ug/kg	
11141-16-5	Aroclor 1232	ND	120	ug/kg	
53469-21-9	Aroclor 1242	ND	120	ug/kg	
12672-29-6	Aroclor 1248	ND	120	ug/kg	
11097-69-1	Aroclor 1254	ND	120	ug/kg	
11096-82-5	Aroclor 1260	147	120	ug/kg	
37324-23-5	Aroclor 1262	ND	120	ug/kg	
11100-14-4	Aroclor 1268	ND	120	ug/kg	
				0 0	
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limit	S
		100-1			
877-09-8	Tetrachloro-m-xylene	109%		30-15	
877-09-8	Tetrachloro-m-xylene	91%		30-15	0%
2051-24-3	Decachlorobiphenyl	136%		30-15	0%
2051-24-3	Decachlorobiphenyl	86%		30-15	0%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



C

Client Sample ID: HA106\_6-8'
Lab Sample ID: M96256-4
Matrix: SO - Soil

**Method:** SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA

**Date Sampled:** 12/01/10 **Date Received:** 12/01/10

Percent Solids: 79.3

File ID DF **Prep Date Analytical Batch** Analyzed By **Prep Batch** Run #1 YZ62764.D 1 12/10/10 CZ12/06/10 OP23542 **GYZ2666** Run #2

Run #1 15.1 g 10.0 ml
Run #2

#### **PCB List**

CAS No.	Compound	Result	RL	Units Q
12674-11-2	Aroclor 1016	ND	130	ug/kg
11104-28-2	Aroclor 1221	ND	130	ug/kg
11141-16-5	Aroclor 1232	ND	130	ug/kg
53469-21-9	Aroclor 1242	ND	130	ug/kg
12672-29-6	Aroclor 1248	ND	130	ug/kg
11097-69-1	Aroclor 1254	ND	130	ug/kg
11096-82-5	Aroclor 1260	ND	130	ug/kg
37324-23-5	Aroclor 1262	ND	130	ug/kg
11100-14-4	Aroclor 1268	ND	130	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	113%		30-150%
877-09-8	Tetrachloro-m-xylene	81%		30-150%
2051-24-3	Decachlorobiphenyl	115%		30-150%
2051-24-3	Decachlorobiphenyl	98%		30-150%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



W

Page 1 of 1

**Client Sample ID:** HA105\_0-2' **Lab Sample ID:** M96256-8

 Matrix:
 SO - Soil

 Method:
 SW846 8082
 SW846 3540C

**Project:** Former Energy International Parcel, MA

Date Sampled: 12/01/10
Date Received: 12/01/10
Percent Solids: 95.7

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 YZ63061.D 1 12/16/10 CZ12/13/10 OP23622 GYZ2677 Run #2

Run #1 15.5 g Final Volume
Run #2

#### **PCB** List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	100	ug/kg	
11104-28-2	Aroclor 1221	ND	100	ug/kg	
11141-16-5	Aroclor 1232	ND	100	ug/kg	
53469-21-9	Aroclor 1242	ND	100	ug/kg	
12672-29-6	Aroclor 1248	ND	100	ug/kg	
11097-69-1	Aroclor 1254	ND	100	ug/kg	
11096-82-5	Aroclor 1260	ND	100	ug/kg	
37324-23-5	Aroclor 1262	ND	100	ug/kg	
11100-14-4	Aroclor 1268	ND	100	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its
877-09-8	Tetrachloro-m-xylene	67%		30-1	50%
877-09-8	Tetrachloro-m-xylene	7% a		30-1	50%
2051-24-3	Decachlorobiphenyl	161% <sup>a</sup>		30-1	50%
2051-24-3	Decachlorobiphenyl	116%		30-1	50%

(a) Outside control limits due to possible matrix interference.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



C

### **Report of Analysis**

Client Sample ID: HA105\_2-4'
Lab Sample ID: M96256-9
Matrix: SO - Soil

**Method:** SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA

Date Sampled: 12/01/10
Date Received: 12/01/10
Percent Solids: 87.5

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 YZ63136.D 1 12/18/10 CZ12/13/10 OP23622 GYZ6278 Run #2

Run #1 15.3 g Final Volume

Run #2

#### **PCB** List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	110	ug/kg	
11104-28-2	Aroclor 1221	ND	110	ug/kg	
11141-16-5	Aroclor 1232	ND	110	ug/kg	
53469-21-9	Aroclor 1242	ND	110	ug/kg	
12672-29-6	Aroclor 1248 a	132	110	ug/kg	
11097-69-1	Aroclor 1254	379	110	ug/kg	
11096-82-5	Aroclor 1260 a	308	110	ug/kg	
37324-23-5	Aroclor 1262	ND	110	ug/kg	
11100-14-4	Aroclor 1268	ND	110	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its
877-09-8	Tetrachloro-m-xylene	100%		30-1	50%
877-09-8	Tetrachloro-m-xylene	83%		30-1	50%
2051-24-3	Decachlorobiphenyl	136%		30-1	50%
2051-24-3	Decachlorobiphenyl	96%		30-1	50%

(a) Estimated value due to the presence of other Arochlor pattern.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



W

Client Sample ID: HA103\_0-2'
Lab Sample ID: M96256-11
Matrix: SO - Soil

**Method:** SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA

**Date Sampled:** 12/01/10 **Date Received:** 12/01/10

Percent Solids: 92.8

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	<b>Analytical Batch</b>
Run #1	YZ63066.D	1	12/16/10	CZ	12/13/10	OP23622	GYZ2677
Run #2							

	<b>Initial Weight</b>	Final Volume
Run #1	15.4 g	10.0 ml
Run #2		

#### **PCB** List

CAS No.	Compound	Result	RL	Units Q
12674-11-2	Aroclor 1016	ND	100	ug/kg
11104-28-2	Aroclor 1221	ND	100	ug/kg
11141-16-5	Aroclor 1232	ND	100	ug/kg
53469-21-9	Aroclor 1242	ND	100	ug/kg
12672-29-6	Aroclor 1248	ND	100	ug/kg
11097-69-1	Aroclor 1254	ND	100	ug/kg
11096-82-5	Aroclor 1260	ND	100	ug/kg
37324-23-5	Aroclor 1262	ND	100	ug/kg
11100-14-4	Aroclor 1268	ND	100	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	71%		30-150%
877-09-8	Tetrachloro-m-xylene	7% <sup>a</sup>		30-150%
2051-24-3 2051-24-3	Decachlorobiphenyl Decachlorobiphenyl	23% <sup>a</sup> 52%		30-150% 30-150%

(a) Outside control limits due to possible matrix interference.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



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**Client Sample ID:** HA103\_2-4' **Lab Sample ID:** M96256-12

 Matrix:
 SO - Soil

 Method:
 SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA

Date Sampled: 12/01/10
Date Received: 12/01/10
Percent Solids: 85.7

Ele ID DE Analyzed Dy Duon Date

 File ID
 DF
 Analyzed
 By
 Prep Date
 Prep Batch
 Analytical Batch

 Run #1
 YZ63139.D
 1
 12/18/10
 CZ
 12/13/10
 OP23622
 GYZ6278

Run #2

Initial Weight Final Volume 15.7 g 10.0 ml

Run #1 Run #2

#### **PCB** List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	110	ug/kg	
11104-28-2	Aroclor 1221	ND	110	ug/kg	
11141-16-5	Aroclor 1232	ND	110	ug/kg	
53469-21-9	Aroclor 1242	ND	110	ug/kg	
12672-29-6	Aroclor 1248	ND	110	ug/kg	
11097-69-1	Aroclor 1254	728	110	ug/kg	
11096-82-5	Aroclor 1260 a	552	110	ug/kg	
37324-23-5	Aroclor 1262	ND	110	ug/kg	
11100-14-4	Aroclor 1268	ND	110	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	its
877-09-8	Tetrachloro-m-xylene	107%		30-1	50%
877-09-8	Tetrachloro-m-xylene	99%		30-1	50%
2051-24-3	Decachlorobiphenyl	402% a		30-1	50%
2051-24-3	Decachlorobiphenyl	139%		30-1	50%

(a) Estimated value due to the presence of other Arochlor pattern.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

 $N = \ Indicates \ presumptive \ evidence \ of \ a \ compound$ 



### **Report of Analysis**

Client Sample ID: HA103\_6-8'
Lab Sample ID: M96256-14
Matrix: SO - Soil

**Method:** SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA

Date Sampled: 12/01/10
Date Received: 12/01/10
Percent Solids: 82.1

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 YZ62768.D 1 12/11/10 CZ 12/06/10 OP23542 GYZ2666

Run #2

Run #1 15.1 g 10.0 ml

Run #2

#### **PCB List**

CAS No.	Compound	Result	RL	Units Q
12674-11-2	Aroclor 1016	ND ND ND ND ND ND ND ND ND	120	ug/kg
11104-28-2	Aroclor 1221		120	ug/kg
11141-16-5	Aroclor 1232		120	ug/kg
53469-21-9	Aroclor 1242		120	ug/kg
12672-29-6	Aroclor 1248		120	ug/kg
11097-69-1	Aroclor 1254		120	ug/kg
11096-82-5	Aroclor 1260		120	ug/kg
37324-23-5	Aroclor 1262	ND	120	ug/kg
11100-14-4	Aroclor 1268	ND	120	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	58%		30-150%
877-09-8	Tetrachloro-m-xylene	59%		30-150%
2051-24-3	Decachlorobiphenyl	117%		30-150%
2051-24-3	Decachlorobiphenyl	60%		30-150%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



L

### **Report of Analysis**

Client Sample ID: HA104\_0-2'
Lab Sample ID: M96256-19
Matrix: SO - Soil

**Method:** SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA

**Date Sampled:** 12/01/10 **Date Received:** 12/01/10

Percent Solids: 93.8

	File ID	DF	Analyzed	By	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	YZ63070.D	1	12/16/10	CZ	12/13/10	OP23622	GYZ2677
Run #2	YZ63141.D	5	12/18/10	CZ	12/13/10	OP23622	GYZ6278

	Initial Weight	Final Volume
Run #1	15.2 g	10.0 ml
Run #2	15.2 g	10.0 ml

#### **PCB List**

CAS No.	Compound	Result	RL	Units Q
12674-11-2	Aroclor 1016	ND	110	ug/kg
11104-28-2	Aroclor 1221	ND	110	ug/kg
11141-16-5	Aroclor 1232	ND	110	ug/kg
53469-21-9	Aroclor 1242	ND	110	ug/kg
12672-29-6	Aroclor 1248	ND	110	ug/kg
11097-69-1	Aroclor 1254	1840 <sup>a</sup>	530	ug/kg
11096-82-5	Aroclor 1260	ND	110	ug/kg
37324-23-5	Aroclor 1262	ND	110	ug/kg
11100-14-4	Aroclor 1268	ND	110	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	132%	175% b 153% b 290% c 173% c	30-150%
877-09-8	Tetrachloro-m-xylene	133%		30-150%
2051-24-3	Decachlorobiphenyl	389% °		30-150%
2051-24-3	Decachlorobiphenyl	204% °		30-150%

- (a) Result is from Run# 2
- (b) Outside control limits due to dilution.
- (c) Outside control limits due to possible matrix interference.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



C

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Client Sample ID: HA104\_2-4' Lab Sample ID: M96256-20

SO - Soil Method: SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA **Date Sampled:** 12/01/10 **Date Received:** 12/01/10 **Percent Solids:** 89.2

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 YZ63143.D 1 12/18/10 CZ12/13/10 OP23622 GYZ6278 Run #2

**Final Volume Initial Weight** Run #1 10.0 ml 15.0 g Run #2

#### **PCB List**

**Matrix:** 

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	110	ug/kg	
11104-28-2	Aroclor 1221	ND	110	ug/kg	
11141-16-5	Aroclor 1232	ND	110	ug/kg	
53469-21-9	Aroclor 1242	ND	110	ug/kg	
12672-29-6	Aroclor 1248	ND	110	ug/kg	
11097-69-1	Aroclor 1254	338	110	ug/kg	
11096-82-5	Aroclor 1260 a	315	110	ug/kg	
37324-23-5	Aroclor 1262	ND	110	ug/kg	
11100-14-4	Aroclor 1268	ND	110	ug/kg	
a.a		- " -	- " -		
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its
877-09-8	Tetrachloro-m-xylene	117%		30-1	50%
877-09-8	Tetrachloro-m-xylene	117%		30-1	
2051-24-3	Decachlorobiphenyl	158% b		30-1	
2051-24-3	Decachlorobiphenyl	91%		30-1	

- (a) Estimated value due to the presence of other Arochlor pattern.
- (b) Outside control limits due to possible matrix interference.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



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Client Sample ID: HA104\_6-8' Lab Sample ID: M96256-22

Matrix: SO - Soil

**Project:** Former Energy International Parcel, MA

Method: SW846 8082 SW846 3540C

Date Sampled: 12/01/10
Date Received: 12/01/10
Percent Solids: 71.8

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 YZ62773.D 1 12/11/10 CZ 12/06/10 OP23542 GYZ2666

Run #2

**Initial Weight** Final Volume 15.6 g 10.0 ml

Run #1 Run #2

#### **PCB List**

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	130	ug/kg	
11104-28-2	Aroclor 1221	ND	130	ug/kg	
11141-16-5	Aroclor 1232	ND	130	ug/kg	
53469-21-9	Aroclor 1242	ND	130	ug/kg	
12672-29-6	Aroclor 1248	ND	130	ug/kg	
11097-69-1	Aroclor 1254	ND	130	ug/kg	
11096-82-5	Aroclor 1260	ND	130	ug/kg	
37324-23-5	Aroclor 1262	ND	130	ug/kg	
11100-14-4	Aroclor 1268	ND	130	ug/kg	
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limi	ts
877-09-8	Tetrachloro-m-xylene	109%		30-15	
877-09-8	Tetrachloro-m-xylene	110%		30-15	50%
2051-24-3	Decachlorobiphenyl	119%		30-15	50%
2051-24-3	Decachlorobiphenyl	111%		30-15	50%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



C

Page 1 of 1

Client Sample ID: HA105\_6-8' Lab Sample ID: M96256-26

Matrix: SO - Soil

**Method:** SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA

**Date Sampled:** 12/01/10 **Date Received:** 12/01/10

Percent Solids: 77.1

File ID DF **Prep Date Analytical Batch** Analyzed By **Prep Batch** Run #1 YZ62722.D 1 12/10/10 CZ12/07/10 OP23548 GYZ2665 Run #2

Run #1 15.4 g 10.0 ml

Run #2

#### **PCB List**

CAS No.	Compound	Result	RL	Units Q
12674-11-2	Aroclor 1016	ND	130	ug/kg
11104-28-2	Aroclor 1221	ND	130	ug/kg
11141-16-5	Aroclor 1232	ND	130	ug/kg
53469-21-9	Aroclor 1242	ND	130	ug/kg
12672-29-6	Aroclor 1248	ND	130	ug/kg
11097-69-1	Aroclor 1254	ND	130	ug/kg
11096-82-5	Aroclor 1260	ND	130	ug/kg
37324-23-5	Aroclor 1262	ND	130	ug/kg
11100-14-4	Aroclor 1268	ND	130	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8 877-09-8 2051-24-3 2051-24-3	Tetrachloro-m-xylene Tetrachloro-m-xylene Decachlorobiphenyl Decachlorobiphenyl	91% 96% 94% 97%	Kull# 2	30-150% 30-150% 30-150% 30-150%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



C



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Parameter Certifications (MA)
- · Chain of Custody
- MCP Form
- Sample Tracking Chronicle



# **Parameter Certification Exceptions**

Job Number: M96256

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA Project:

The following parameters included in this report are exceptions to NELAC certification. The certification status of each is indicated below.

Parameter	CAS#	Method	Mat	Certification Status
Aroclor 1262	37324-23-5	SW846 8082	SO	Certified by SOP MGC204/GC-ECD
Aroclor 1268	11100-14-4	SW846 8082	SO	Certified by SOP MGC204/GC-ECD



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H&A FILE NO	6318-502			LABO	RATORY	Αc	CUTE	ST		DELIVER	Y DATE	12/11	
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						Analysi	s Request	ed					
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Presumptive Certainty Data Paci	kage is needed, initial all s	ections:	Presump	tive Certair	ity Data Packa	ge (Laboratory to	use appl	cable DEP	CAM method	ls)	Required Reporting Limits	and Bata One Van	Out
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			ed and identif	ied herein.					•	*	RC-S1	□ s1	□ GW1
The required minimum i	ples for MCP Metals and/or											_	_
The required minimum i		includes 🔀	does not in	clude sampl	les defined as Dr	inking Water Sam	ples.				□ RC-S2	□ S2	□ GW2
The required minimum i  Matrix Spike (MS) samp  This Chain of Custody F  If this Chain of Custody		_includes defined as Drinking \	Water Sample					ntified and a	nalysis of TIO	S are required,	□ RC-S2 □ RC-GW1 □ RC-GW2	□ S2 □ S3	□ GW2 □ GW3

M96256: Chain of Custody Page 1 of 4



HALEY 469 ALDRICH Sui	ley & Aldric 5 Medford S ite 2200, ston, MA 02	it.,				СН	AIN	OF (	CUS.	ГОГ	Y RE	COR	D	Phone Fax	96256 (617) 886-740( (617) 886-760( 2 of 3
H&A FILE NO.	N(03)	8-50	52			LABOR	ATORY	ACC.	mE ST			DELIVER	Y DATE	(2/11/10	
PROJECT NAME FORMER	ENER	GY INT	FIZNATIO	DUALP	ARCO	L ADDRE	ss				H, MA	TURNARO	OUND TIME	100	
H&A CONTACT		KULLA				CONTA			TIBBO		nundu.	PROJECT	MANAGER		CNETHY
	1		T	T					alysis Reque			-	1		
Sample No.	Date	Time	Depth	Туре	VOA	ABNs PAH only	MCP Metals Pesticide PCBs VPH	Coranges only EPE Full Suite Coranges only	TPH (specify)	Reactivity Igalability Corrosivity		Number of Containers	(special instructions, pre	Comments ecautions, additions	l method numbers,
HA 103_ 0-2'	12/1/10	1025	0.2	SOIL			X:					01	Laboratory to use appli		ethods, unless other
HA 103-2-4'	1	1020	2-4				X		***************************************					directed.	
1+A 103_4-6'		1040	476				X	van-		-			1 (1) PCBS		
HA 103_2-4' HA 103_4-6' HA 103_6-8'		1040		·	**********	f	2		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	-			1 0		
144103.8-10'		1105			+	<del> </del>	\bar{\chi}			1					
		1100	8-10			-	Ž			<del> </del>			1		
HA103 10-12			10-12				( <del>)</del>								
HA(03-12-135)		1115	12-135		-	<del>  </del>	-X					1			
HA 103_135-16"		1120	135-16				X			ļļ			-		
HA 104 -0.2"		to the second section of the second section of	0-2		- Particion	ll	X			ļļ					
11A 104_2-4'		1215	2-4	4			×	dependent of the second	1			· ·			
sampled and Relinquished		ived by			<u> </u>				LIQUID		(10 TOT	AC.	Sampling Comments		
Mitte	Sign	ville	Arl	_								VOA Vial	* Aud alls	amoles t	A8 Croise
TIME MATTHEW DODSON	Print				L				************			Amber Glass			
im H+A	Firm	ALV	10 Time (			ļ.,						Plastic Bottle			
Date 12/1/10 Time	Date	12/11	10 Time /	510	1							Preservative		P-10-10-10-10-10-10-10-10-10-10-10-10-10-	
telinquished by	Rece	ived by			<u> </u>	all and an artist and an artist and artist artist and artist artist and artist artist and artist artist and artist artist and artist artist artist and artist artis	da da					Volume			
ism will shall	Sign	will	Obell 1		<u></u>		······		SOLID						
rint	Print				ļ			l. l.				VOA Vial			
írm	Firm									ļ.		Amber Glass			
ate 12/1/10 Time 165			Time	1650			X	1		1		Clear Glass			
elinquished by	Recei	ived by					A	1		ļ.,,		Preservative	Evidence samples were tar	npered with? YE	s no
ign	Sign						Uoz		į			Volume	If YES, please explain in s	ection below.	
rint	Print				<u> </u>			PRESI	ERVATION	KEY					
irm	Firm				A San	nple chilled	C NaC	H	E H <sub>2</sub> SO <sub>4</sub>		G Methanol				
ate Time	Date		Time			nple filtered		·	F HCL		H Water/NaHS			,	,
Description Contribute D D		l dudatat an -		Pre	esumpti	ve Certaint	y Data Packag	e (Laborato	ry to use ap	plicable D	EP CAM metho	is)			
Presumptive Certainty Data Pack The required minimum f				CAM-VIER	ave heer	or will be	collected as an	nronriste to	meet the rest	oiremente o	f Presumntive Co	dainty	Required Reporting Limit	s and Data Quality	Objectives
Matrix Spike (MS) samp							app		or are rede	or simons of		······································	ÆRC-S1	□ s1	□ GW1
This Chain of Custody R			includes_b				s defined as Dri	nking Water	Samples.				□ RC-S2	□ S2	□ GW2
If this Chain of Custody as appropriate. Laborato				nking Water _analyz	Samples	, Trip Blank	ts and Field Du	plicates are i	ncluded and i	identified a	nd analysis of TIO	Cs are required,	□ RC-GW1 □ RC-GW2	□ S3	□ GW3
		·····	WHITE -	T about our		CANADY	Project Manage		PINK - Haley	8. 414 14 7	-1		L		AUGUST 2008

Form 3003

M96256: Chain of Custody

Page 2 of 4



T	aley & Aldrich, Inc.	······										196256
HALEY 46	5 Medford St.,			CH	IATN	OF	CIIS	TOD	Y RECOR	D	Phone Fax	(617) 886-7400 (617) 886-7600
	nite 2200, oston, MA 02129-1400			C M. J	TT FT A	O a	COS		1 KECOK		Page .	3 or (3
	16318-502				RATORY	A	CCUT	€ ST	DELIVE	RY DATE	12/1/10	<u> </u>
PROJECT NAME PORMER	Z ENTERINY HOT	PENATIONL	PARCE	ADDRE	ESS	MARL	BURDI	GH, MI	A TURNAF	OUND TIME	to day	ŧ
H&A CONTACT	J YOUWAN			CONTA	ACT	K.	GIB	3005	PROJEC	T MANAGER	C. wor	
				, , ,	1761	A	nalysis Req					-9
Sample No.	Date Time	Depth Typ	oe VOA	ABNs PAH only	MCP Metals Pesticides PCBs	Full Suite Cranges only EPH Full Suite	TPH (specify)	Reactivity Ignitability Corrosivity	Number of Containers	(special instructions,	Comments precautions, addition	al method numbers,
HA104_4-6"	121/10 12:45	4-6 801	L	e de la constante	X	į			1	Laboratory to use ap	plicable DEP CAM m	ethods, unless other
MA104_6-81	12.56	6.8			χ					00000	directed.	
HA 104_8-10"		870		1	X		·			(DPCBS		
AlA (Att line tal	120/	10.10		1	1		1			-		
****************	Marina	113250 M1	1/1/1	nen	unes	man	nn	men	manno	arre		
HA 104-132-15'	rijir moge	DOLLOW TO	Pipi		7////	,,,,,	m.	o succes	mmmixec	745		
	1025	13.2-15		<del>  </del>	- X							
HA105_ 6-81	1410	6-8		ļ	Ţ,		ļ			,		
MA 105_ 8-10'		8-10	*****	ļļ	×		ļļ					
HA 105_10-122		10-12.2	**************************************		$\times$		L					
WA105_ 12.2-14'	1 445	12.2-14			$\sim$				1			
Sampled and Relinquished by	Received by						LIQUID		/a tony	Sampling Comments		
Sign Wetfell—	Sign well	Chelle				1			VOA-VIÁ	* hold an	Samole s t	x low SFT
TIME MATT HEW DOOD									Amber Glass			100 to 11 to 100 to 100 to 100 to 100 to 100 to 100 to 100 to 100 to 100 to 100 to 100 to 100 to 100 to 100 to
im H+A	Firm DL1	15_							Plastic Bottle	AND THE RESIDENCE OF THE PROPERTY OF THE PROPE		
Date   14 1/1/Time	Date   1111	10 Time 157							Preservative		commonwealth and declarated the feet for the feet of t	
telinquished by	Received by								Volume			
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rint .	Print								VOA Vial	La	MALANIAN LINES AND AND AND AND AND AND AND AND AND AND	4
`irm	Firm			· ·					Amber Glass			
Date 11/1/10 Time 165	10 Date 12/1/1	o Time /650			Х	were order were send		T	Clear Glass		Rains commenter and left but discontinuous desired control	non-remaining the Principle leads to his
elinquished by	Received by				Α				Preservative	Evidence samples were	tampered with? VI	S NO
ign	Sign			wyrega weedy ground	402	a consider parameters		1	Volume	If YES, please explain i	•	
rint	Print				·	PRES	SERVATIO	N KEY		1,		
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ate Time	Date	Time		ple filtered			F HCL		I Water/NaHSO4 (circle)			777 × × × × 10 × · · · · · · · · · · · · · · · · · ·
			Presumptiv	e Certaint	ty Data Pack	age (Labora	tory to use a		P CAM methods)	·		
Presumptive Certainty Data Pack										Required Reporting Lis	nits and Data Quality	Objectives
1 ne requires minimum i	field QC samples, as design ples for MCP Metals and/o				collected, as	appropriate, to	o meet the re	quirements of I	Presumptive Certainty.	1	<b>-</b>	_
Matrix Spike (MS) samp  This Chain of Custody F		includesincluded			es defined on T	Trinking Wat	er Sampler			⊅RC-S1 □RC-S2	□ S1 □ S2	□ GWI
-										□ RC-S2	□ 82 □ 83	□ GW2 □ GW3
If this Chain of Custody as appropriate. Laborato	Record identifies samples ory should (specify if applic	defined as Drinking Wa cable) analyz		, Trip Blani	ks and Field I	Ouplicates are	included an	d identified and	l analysis of TICs are required,	□ RC-GW2	53	- OW3
	, (-p) - uppar	unity2								l		

Form 3003

M96256: Chain of Custody Page 3 of 4



796256

# Frank D'Agostino

Parkin Kullmann, Jane [jkullmann@haleyaldrich.com] From:

Monday, December 13, 2010 2:14 PM Sent:

Frank D'Agostino

Subject: Energy International PCB soil analyses follow-up

those sample locations specifically (i.e., HA-111, HA-112, and HA-113), as well as the additional samples that we are analyzing for PCBs from 0-2 and 2-4 ft bgs from those same boring locations. For any other boring locations where the results were not yet reported, we would just like to report the results for PCB analyses of soil from 0-I talked with my Project Manager for the Energy International project again, and he thought since the analyses were already conducted, that we should include in the report the results for the samples 8 feet and below for 2 and 2-4 ft bgs.

Let me know if you have any further questions or need any clarification about the analyses.

Thanks,

Jane A. Parkin Kullmann Staff Engineer HALEY & ALDRICH GAS Medford Street, Suite 2200 Boston, MA 02129-1400 Tel: 617.886.7354 Fax: 617.886.7654 Cell: 847.370.3018 Email: kullmann@HaleyAldrich.com

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12/13/2010



# Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup

WSC-CAM	Exhibit VII A
July 1, 2010	Revision No. 1
Final	Page 13 of 38

# Exhibit VII A-2: MassDEP Analytical Protocol Certification Form

		Ma	ssDEP Analytical I	Protocol Certificat	on Form					
Labor	ratory Name:	Accutest Laboratorie	es of New England		Project #:	M9625	56			
Proje	ct Location:	Former Energy Inter	national Parcel, MA		MADEP RTN	None				
	M96256-4, M96256-	ations for the following 14, M96256-22, M962 2, M96256-8, M96256	data set: list Labora 56-26	, ,	( )					
Matric	es: Groundwate	er/Surface Water ()	Soil/Sediment (X)	Drinking Water (	) Air (	)		Other	()	
CAMI	Protocol (check all that	t apply below):								
	8260 VOC ()	7470/7471 Hg ()	MassDEP VPH ()	8081 Pesticides	() 7196 Hex Cr	()		Mass DEP APH	()	
	CAM IIA	CAM VI B			CAM IX A					
	8270 SVOC () CAM II B	7010 Metals ()	MassDEP EPH ()	8151 Herbicides CAM V C	() 8330 Explosives CAM VIII A	()		TO-15 VOC CAM IX B	()	
	6010 Metals ( ) CAM III A	6020 Metals () CAM III D			) 6860 Perchlorate CAM VIII B	()		ON WINCE		
	Affirmative Respon	ses to Questions A	Through F are requ	ired for "Presump	tive Certainty statu	ıs		•		
	properly preserved (i method holding times		in the field or labora	atory, and prepared	analyzed within	<b>V</b>	Yes	□ No		
В	protocol(s) followed?	method(s) and all asso	ciated QC requirem	ents specified in the	e selected CAIVI	<b>V</b>	Yes	☐ No		
	Were all required con	rrective actions and ar		•		<b>7</b>	Yes	□No		
D	Does the laboratory i	report comply with all t and Quality Control Gu	the reporting require	ments specified in (		<u> </u>	Yes			
Е	modification(s)? (Re	PH Methods only: Wa efer to the individual m	ethod(s) for a list of	significant modifica	ions).	<b>V</b>	Yes	_		
		flethods only: Was the CAM protocol QC and				<u> </u>	Yes Yes			
		aboratory narrative (inc	•							
	Responses to ques	stions G, H, and I belo	ow is required for "	Presumptive Certa	ninty" status					
G	Were the reporting li	mits at or below all CA	M reporting limits sp	ecified in the		<b>V</b>	Yes	□ No	1	
	Data User Note: Da	ata that achieve "Pres ness requirements d		•	•	e data u	seab	ility		
	Were all QC perform	nance standards speci	fied in the CAM prot	ocol(s) achieved?			Yes			
<b>I</b>	•	d for the complete and	· ·		. ,	<u> </u>	Yes	□ No	1	
inqui	undersigned, attest iry of those respons	under the pains and ible for obtaining the	penalties of perjure information, the n	y that, based upor naterial contained	n my personal in this	auve.				
	N	e best of my knowled	аде апа ренет, ассі —	<u> </u>						
	rinted Name: Reza Tand Position: Laboratory Director  Date: 12/18/2010									



# **Internal Sample Tracking Chronicle**

Haley & Aldrich

Job No: M96256

Former Energy International Parcel, MA Project No: 06318-502

Sample Number	Method	Analyzed	Ву	Prepped	Ву	Test Codes
M96256-1 HA106_0-2		08:15 By: MD	Receiv	ved: 01-DEC	-10 By:	
M96256-1 M96256-1	SM21 2540 B MOD. SW846 8082	13-DEC-10 16-DEC-10 13:12	HS CZ	13-DEC-10	AJ	% SOL P8082SOXHLET
M96256-2 HA106_2-4	Collected: 01-DEC-10	08:10 By: MD	Receiv	ved: 01-DEC	-10 By:	: ЈВ
	SM21 2540 B MOD. SW846 8082	13-DEC-10 18-DEC-10 06:08	HS CZ	13-DEC-10	AJ	% SOL P8082SOXHLET
M96256-4 HA106_6-8	Collected: 01-DEC-10	08:45 By: MD	Receiv	ved: 01-DEC	-10 By:	: ЈВ
	SM21 2540 B MOD. SW846 8082	03-DEC-10 10-DEC-10 22:54	HS CZ	06-DEC-10	CA	% SOL P8082SOXHLET
M96256-8 HA105_0-2	Collected: 01-DEC-10	14:05 By: MD	Receiv	ved: 01-DEC	-10 By:	: ЈВ
	SM21 2540 B MOD. SW846 8082	13-DEC-10 16-DEC-10 14:53	HS CZ	13-DEC-10	AJ	% SOL P8082SOXHLET
M96256-9 HA105_2-4	Collected: 01-DEC-10	14:00 By: MD	Receiv	ved: 01-DEC	-10 By:	: ЈВ
	SM21 2540 B MOD. SW846 8082	13-DEC-10 18-DEC-10 06:44	HS CZ	13-DEC-10	AJ	% SOL P8082SOXHLET
M96256-11 HA103_0-2	Collected: 01-DEC-10	10:25 By: MD	Receiv	ved: 01-DEC	-10 By:	: ЈВ
	SM21 2540 B MOD. SW846 8082	13-DEC-10 16-DEC-10 17:03	HS CZ	13-DEC-10	AJ	% SOL P8082SOXHLET
M96256-12 HA103_2-4	Collected: 01-DEC-10	10:20 By: MD	Receiv	ved: 01-DEC	-10 By:	: JB
M96256-12	SM21 2540 B MOD.	13-DEC-10	HS			% SOL

# **Internal Sample Tracking Chronicle**

Haley & Aldrich

Job No: M96256

Former Energy International Parcel, MA Project No: 06318-502

Sample						
Number	Method	Analyzed	Ву	Prepped	Ву	Test Codes
M96256-12	SW846 8082	18-DEC-10 07:41	CZ	13-DEC-10	AJ	P8082SOXHLET
M96256-14 HA103_6-8	Collected: 01-DEC-10	10:40 By: MD	Receiv	ved: 01-DEC-	-10 By	: ЈВ
	SM21 2540 B MOD. SW846 8082	03-DEC-10 11-DEC-10 00:13	HS CZ	06-DEC-10	CA	% SOL P8082SOXHLET
M96256-19 HA104_0-2	Collected: 01-DEC-10	12:20 By: MD	Receiv	ved: 01-DEC-	-10 By	: ЈВ
M96256-19	SM21 2540 B MOD. SW846 8082 SW846 8082	13-DEC-10 16-DEC-10 18:44 18-DEC-10 08:18		13-DEC-10 13-DEC-10		% SOL P8082SOXHLET P8082SOXHLET
M96256-20 HA104_2-4	Collected: 01-DEC-10	12:15 By: MD	Receiv	ved: 01-DEC-	-10 By	: ЈВ
	SM21 2540 B MOD. SW846 8082	13-DEC-10 18-DEC-10 09:01	HS CZ	13-DEC-10	AJ	% SOL P8082SOXHLET
M96256-22 HA104_6-8	Collected: 01-DEC-10	12:50 By: MD	Receiv	ved: 01-DEC-	-10 By	: JB
	SM21 2540 B MOD. SW846 8082	03-DEC-10 11-DEC-10 01:47	HS CZ	06-DEC-10	CA	% SOL P8082SOXHLET
M96256-26 HA105_6-8	Collected: 01-DEC-10	14:10 By: MD	Receiv	ved: 01-DEC-	-10 By	: ЈВ
	SM21 2540 B MOD. SW846 8082	03-DEC-10 10-DEC-10 08:58	HS CZ	07-DEC-10	FC	% SOL P8082SOXHLET





# GC Semi-volatiles

# QC Data Summaries

# Includes the following where applicable:

- · Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

# **Method Blank Summary**

Job Number: M96256

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA **Project:** 

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP23542-MB	YZ62753.D	1	12/10/10	CZ	12/06/10	OP23542	GYZ2666

### The QC reported here applies to the following samples:

M96256-4, M96256-14, M96256-22

CAS No.	Compound	Result	RL	Units Q
12674-11-2	Aroclor 1016	ND	98	ug/kg
11104-28-2	Aroclor 1221	ND	98	ug/kg
11141-16-5	Aroclor 1232	ND	98	ug/kg
53469-21-9	Aroclor 1242	ND	98	ug/kg
12672-29-6	Aroclor 1248	ND	98	ug/kg
11097-69-1	Aroclor 1254	ND	98	ug/kg
11096-82-5	Aroclor 1260	ND	98	ug/kg
37324-23-5	Aroclor 1262	ND	98	ug/kg
11100-14-4	Aroclor 1268	ND	98	ug/kg

CAS No.	<b>Surrogate Recoveries</b>		Limits
877-09-8	Tetrachloro-m-xylene	99%	30-150%
877-09-8	Tetrachloro-m-xylene	95%	30-150%
2051-24-3	Decachlorobiphenyl	104%	30-150%
2051-24-3	Decachlorobinhenyl	107%	30-150%

# **Method Blank Summary**

Job Number: M96256

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA **Project:** 

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	<b>Analytical Batch</b>
OP23548-MB	YZ62718.D	1	12/09/10	CZ	12/07/10	OP23548	GYZ2665

The QC reported here applies to the following samples:

M96256-26

CAS No.	Compound	Result	RL	Units Q
12674-11-2	Aroclor 1016	ND	98	ug/kg
11104-28-2	Aroclor 1221	ND	98	ug/kg
11141-16-5	Aroclor 1232	ND	98	ug/kg
53469-21-9	Aroclor 1242	ND	98	ug/kg
12672-29-6	Aroclor 1248	ND	98	ug/kg
11097-69-1	Aroclor 1254	ND	98	ug/kg
11096-82-5	Aroclor 1260	ND	98	ug/kg
37324-23-5	Aroclor 1262	ND	98	ug/kg
11100-14-4	Aroclor 1268	ND	98	ug/kg
				~ ~

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	90%	30-150%
877-09-8	Tetrachloro-m-xylene	91%	30-150%
2051-24-3	Decachlorobiphenyl	87%	30-150%
2051-24-3	Decachlorobiphenyl	97%	30-150%



# **Method Blank Summary**

Job Number: M96256

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA **Project:** 

Sample OP23622-MB	File ID YZ63039.D	<b>DF</b> 1	<b>Analyzed</b> 12/16/10	By CZ	<b>Prep Date</b> 12/13/10	Prep Batch OP23622	Analytical Batch GYZ2676	

### The QC reported here applies to the following samples:

M96256-1, M96256-2, M96256-8, M96256-9, M96256-11, M96256-12, M96256-19, M96256-20

CAS No.	Compound	Result	RL	Units Q
				_
12674-11-2	Aroclor 1016	ND	97	ug/kg
11104-28-2	Aroclor 1221	ND	97	ug/kg
11141-16-5	Aroclor 1232	ND	97	ug/kg
53469-21-9	Aroclor 1242	ND	97	ug/kg
12672-29-6	Aroclor 1248	ND	97	ug/kg
11097-69-1	Aroclor 1254	ND	97	ug/kg
11096-82-5	Aroclor 1260	ND	97	ug/kg
37324-23-5	Aroclor 1262	ND	97	ug/kg
11100-14-4	Aroclor 1268	ND	97	ug/kg

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	93%	30-150%
877-09-8	Tetrachloro-m-xylene	101%	30-150%
2051-24-3	Decachlorobiphenyl	108%	30-150%
2051-24-3	Decachlorobiphenyl	116%	30-150%



# **Blank Spike Summary Job Number:** M96256

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA **Project:** 

Sample OP23548-BS	File ID YZ62719.D	<b>DF</b> 1	<b>Analyzed</b> 12/09/10	By CZ	<b>Prep Date</b> 12/07/10	Prep Batch OP23548	Analytical Batch GYZ2665

The QC reported here applies to the following samples:

M96256-26

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
12674-11-2	Aroclor 1016	263	324	123	40-140
11104-28-2	Aroclor 1221		ND		40-140
11141-16-5	Aroclor 1232		ND		40-140
53469-21-9	Aroclor 1242		ND		40-140
12672-29-6	Aroclor 1248		ND		40-140
11097-69-1	Aroclor 1254		ND		40-140
11096-82-5	Aroclor 1260	263	277	105	40-140
37324-23-5	Aroclor 1262		ND		40-140
11100-14-4	Aroclor 1268		ND		40-140

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	90%	30-150%
877-09-8	Tetrachloro-m-xylene	91%	30-150%
2051-24-3	Decachlorobiphenyl	97%	30-150%
2051-24-3	Decachlorobiphenyl	108%	30-150%

# **Blank Spike Summary**

Job Number: M96256

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA **Project:** 

Sample OP23622-BS	File ID YZ63040.D	<b>DF</b> 1	<b>Analyzed</b> 12/16/10	By CZ	<b>Prep Date</b> 12/13/10	Prep Batch OP23622	Analytical Batch GYZ2676

The QC reported here applies to the following samples:

M96256-1, M96256-2, M96256-8, M96256-9, M96256-11, M96256-12, M96256-19, M96256-20

CAS No. Compound	Spik ug/k		BSP %	Limits
12674-11-2 Aroclor 1016	261	253	97	40-140
11104-28-2 Aroclor 1221		ND		40-140
11141-16-5 Aroclor 1232		ND		40-140
53469-21-9 Aroclor 1242		ND		40-140
12672-29-6 Aroclor 1248		ND		40-140
11097-69-1 Aroclor 1254		ND		40-140
11096-82-5 Aroclor 1260	261	281	108	40-140
37324-23-5 Aroclor 1262		ND		40-140
11100-14-4 Aroclor 1268		ND		40-140

CAS No.	<b>Surrogate Recoveries</b>	BSP	Limits
877-09-8	Tetrachloro-m-xylene	89%	30-150%
877-09-8	Tetrachloro-m-xylene	89%	30-150%
2051-24-3	Decachlorobiphenyl	101%	30-150%
2051-24-3	Decachlorobiphenyl	110%	30-150%

**Method:** SW846 8082

# Blank Spike/Blank Spike Duplicate Summary

Job Number: M96256

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	Ву	Prep Date	Prep Batch	Analytical Batch
OP23542-BS	YZ62754.D	1	12/10/10	CZ	12/06/10	OP23542	GYZ2666
OP23542-BSD	YZ62755.D	1	12/10/10	CZ	12/06/10	OP23542	GYZ2666

The QC reported here applies to the following samples:

M96256-4, M96256-14, M96256-22

CAS No. Cor	mpound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
12674-11-2 Aro	oclor 1016	261	309	118	313	122	1	40-140/30
11104-28-2 Aro	oclor 1221		ND		ND		nc	40-140/30
11141-16-5 Aro	oclor 1232		ND		ND		nc	40-140/30
53469-21-9 Aro	oclor 1242		ND		ND		nc	40-140/30
12672-29-6 Aro	oclor 1248		ND		ND		nc	40-140/30
11097-69-1 Aro	oclor 1254		ND		ND		nc	40-140/30
11096-82-5 Aro	oclor 1260	261	305	117	322	125	5	40-140/30
37324-23-5 Aro	oclor 1262		ND		ND		nc	40-140/30
11100-14-4 Aro	oclor 1268		ND		ND		nc	40-140/30

CAS No.	<b>Surrogate Recoveries</b>	BSP	BSD	Limits
877-09-8	Tetrachloro-m-xylene	112%	120%	30-150%
877-09-8	Tetrachloro-m-xylene	109%	120%	30-150%
2051-24-3	Decachlorobiphenyl	113%	123%	30-150%
2051-24-3	Decachlorobiphenyl	116%	126%	30-150%

Method: SW846 8082

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96256

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA Project:

Sample	File ID	DF	Analyzed	Ву	Prep Date	Prep Batch	Analytical Batch
OP23542-MS	YZ62756.D	1	12/10/10	CZ	12/06/10	OP23542	GYZ2666
OP23542-MSD	YZ62757.D	1	12/10/10	CZ	12/06/10	OP23542	GYZ2666
M96297-1	YZ62758.D	1	12/10/10	CZ	12/06/10	OP23542	GYZ2666
M96297-1	YZ62807.D	5	12/11/10	CZ	12/06/10	OP23542	GYZ2667

The QC reported here applies to the following samples:

M96256-4, M96256-14, M96256-22

CAS No. Compound	M96297-1 ug/kg Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
12674-11-2 Aroclor 1016	ND	282	360	127	363	130	1	40-140/50
11104-28-2 Aroclor 1221	ND		ND		ND		nc	40-140/50
11141-16-5 Aroclor 1232	ND		ND		ND		nc	40-140/50
53469-21-9 Aroclor 1242	ND		ND		ND		nc	40-140/50
12672-29-6 Aroclor 1248	1060 <sup>a</sup>		1080		1140		5	40-140/50
11097-69-1 Aroclor 1254	1850 a		1630		1740		7	40-140/50
11096-82-5 Aroclor 1260	172	282	481	109	496	116	3	40-140/50
37324-23-5 Aroclor 1262	ND		ND		ND		nc	40-140/50
11100-14-4 Aroclor 1268	ND		ND		ND		nc	40-140/50

CAS No.	<b>Surrogate Recoveries</b>	MS	MSD	M96297-1	M96297-1	Limits
877-09-8	Tetrachloro-m-xylene	108%	111%	138%	134%	30-150%
877-09-8	Tetrachloro-m-xylene	106%	106%	122%	123%	30-150%
2051-24-3	Decachlorobiphenyl	118%	121%	146%	152% * b	30-150%
2051-24-3	Decachlorobiphenyl	113%	113%	134%	152% * b	30-150%

<sup>(</sup>a) Result is from Run #2.

<sup>(</sup>b) Outside control limits due to possible matrix interference.

**Method:** SW846 8082

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96256

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP23548-MS	YZ62720.D	1	12/09/10	CZ	12/07/10	OP23548	GYZ2665
OP23548-MSD	YZ62721.D	1	12/10/10	CZ	12/07/10	OP23548	GYZ2665
M96256-26	YZ62722.D	1	12/10/10	CZ	12/07/10	OP23548	GYZ2665

The QC reported here applies to the following samples:

M96256-26

CAS No. Compour	M96256 d ug/kg		oike MS g/kg ug/k	g %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
12674-11-2 Aroclor 1	016 ND	34	430	124	359	108	18	40-140/50
11104-28-2 Aroclor 1	221 ND		ND		ND		nc	40-140/50
11141-16-5 Aroclor 1	232 ND		ND		ND		nc	40-140/50
53469-21-9 Aroclor 1	242 ND		ND		ND		nc	40-140/50
12672-29-6 Aroclor 1	248 ND		ND		ND		nc	40-140/50
11097-69-1 Aroclor 1	254 20.5		143		110		26	40-140/50
11096-82-5 Aroclor 1	260 ND	34	463	134	382	114	19	40-140/50
37324-23-5 Aroclor 1	262 ND		ND		ND		nc	40-140/50
11100-14-4 Aroclor 1	268 ND		ND		ND		nc	40-140/50

CAS No.	<b>Surrogate Recoveries</b>	MS	MSD	M96256-26	Limits
877-09-8	Tetrachloro-m-xylene	119%	101%	91%	30-150%
877-09-8	Tetrachloro-m-xylene	123%	102%	96%	30-150%
2051-24-3	Decachlorobiphenyl	122%	105%	94%	30-150%
2051-24-3	Decachlorobiphenyl	122%	107%	97%	30-150%

**Method:** SW846 8082

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96256

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA Project:

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP23622-MS	YZ63044.D	1	12/16/10	CZ	12/13/10	OP23622	GYZ2677
OP23622-MSD	YZ63046.D	1	12/16/10	CZ	12/13/10	OP23622	GYZ2677
M96288-1	YZ63048.D	1	12/16/10	CZ	12/13/10	OP23622	GYZ2677

The QC reported here applies to the following samples:

M96256-1, M96256-2, M96256-8, M96256-9, M96256-11, M96256-12, M96256-19, M96256-20

CAS No. Compound	M96288-1 ug/kg Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
12674-11-2 Aroclor 1016	ND	299	292	98	366	123	22	40-140/50
11104-28-2 Aroclor 1221	ND		ND		ND		nc	40-140/50
11141-16-5 Aroclor 1232	ND		ND		ND		nc	40-140/50
53469-21-9 Aroclor 1242	ND		ND		ND		nc	40-140/50
12672-29-6 Aroclor 1248	ND		ND		ND		nc	40-140/50
11097-69-1 Aroclor 1254	81.1		820		167		132* a	40-140/50
11096-82-5 Aroclor 1260	34.0	299	288	85	380	116	28	40-140/50
37324-23-5 Aroclor 1262	ND		ND		ND		nc	40-140/50
11100-14-4 Aroclor 1268	ND		ND		ND		nc	40-140/50

CAS No.	<b>Surrogate Recoveries</b>	MS	MSD	M96288-1	Limits
877-09-8	Tetrachloro-m-xylene	62%	48%	72%	30-150%
877-09-8	Tetrachloro-m-xylene	1405% * a	13% * a	41%	30-150%
2051-24-3	Decachlorobiphenyl	35%	122%	129%	30-150%
2051-24-3	Decachlorobiphenyl	93%	107%	123%	30-150%

(a) Outside control limits due to possible matrix interference.

# Semivolatile Surrogate Recovery Summary

Job Number: M96256

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Method: SW846 8082 Matrix: SO

### Samples and QC shown here apply to the above method

Lab	Lab				
Sample ID	File ID	<b>S1</b> a	<b>S1</b> <sup>b</sup>	<b>S2</b> a	<b>S2</b> b
M96256-1	YZ63057.D	40.0	31.0	148.0	114.0
M96256-2	YZ63134.D	109.0	91.0	136.0	86.0
M96256-4	YZ62764.D	113.0	81.0	115.0	98.0
M96256-8	YZ63061.D	67.0	7.0* <sup>c</sup>	161.0* c	116.0
M96256-9	YZ63136.D	100.0	83.0	136.0	96.0
M96256-11	YZ63066.D	71.0	7.0* c	23.0* c	52.0
M96256-12	YZ63139.D	107.0	99.0	402.0* d	139.0
M96256-14	YZ62768.D	58.0	59.0	117.0	60.0
M96256-19	YZ63141.D	175.0* e	153.0* e	290.0* c	173.0* c
M96256-19	YZ63070.D	132.0	133.0	389.0* c	204.0* c
M96256-20	YZ63143.D	117.0	117.0	158.0* c	91.0
M96256-22	YZ62773.D	109.0	110.0	119.0	111.0
M96256-26	YZ62722.D	91.0	96.0	94.0	97.0
OP23542-BS	YZ62754.D	112.0	109.0	113.0	116.0
OP23542-BSD	YZ62755.D	120.0	120.0	123.0	126.0
OP23542-MB	YZ62753.D	99.0	95.0	104.0	107.0
OP23542-MS	YZ62756.D	108.0	106.0	118.0	113.0
OP23542-MSD	YZ62757.D	111.0	106.0	121.0	113.0
OP23548-BS	YZ62719.D	90.0	91.0	97.0	108.0
OP23548-MB	YZ62718.D	90.0	91.0	87.0	97.0
OP23548-MS	YZ62720.D	119.0	123.0	122.0	122.0
OP23548-MSD	YZ62721.D	101.0	102.0	105.0	107.0
OP23622-BS	YZ63040.D	89.0	89.0	101.0	110.0
OP23622-MB	YZ63039.D	93.0	101.0	108.0	116.0
OP23622-MS	YZ63044.D	62.0	1405.0* c	35.0	93.0
OP23622-MSD	YZ63046.D	48.0	13.0* c	122.0	107.0

# Surrogate Recovery Compounds Limits

S1 = Tetrachloro-m-xylene 30-150% S2 = Decachlorobiphenyl 30-150%

- (a) Recovery from GC signal #1
- (b) Recovery from GC signal #2
- (c) Outside control limits due to possible matrix interference.
- (d) Estimated value due to the presence of other Arochlor pattern.
- (e) Outside control limits due to dilution.





12/22/10



# Technical Report for

Haley & Aldrich

Former Energy International Parcel, MA

06318-502

Accutest Job Number: M96257

Sampling Date: 12/01/10

# Report to:

Haley & Aldrich

jkullmann@haleyaldrich.com

ATTN: Jane Kullmann

Total number of pages in report: 221



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Lab Director

Client Service contact: Kristen Blanchard 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) ISO 17025:2005 (L2235) This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories. Test results relate only to samples analyzed.



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# **Sample Summary**

Haley & Aldrich

Job No: M96257

Former Energy International Parcel, MA Project No: 06318-502

Sample	Collected			Matri	ix	Client
Number	Date	Time By	Received	Code	Туре	Sample ID
M96257-1	12/01/10	08:15 MD	12/01/10	SO	Soil	HA106_0-4'
M96257-1A	12/01/10	08:15 MD	12/01/10	SO	Soil	HA106_0-4'
M96257-2	12/01/10	09:30 MD	12/01/10	SO	Soil	HA106_8-12.5'
						_
M96257-2A	12/01/10	09:30 MD	12/01/10	SO	Soil	HA106_8-12.5'
140,6257, 2	10/01/10	14.00 MF	10/01/10	00	o :1	W 105 0 4
M96257-3	12/01/10	14:00 MD	12/01/10	SO	Soil	HA105_0-4'
M96257-3A	12/01/10	14:00 MD	12/01/10	SO	Soil	HA105_0-4'
M96257-4	12/01/10	14:25 MD	12/01/10	SO	Soil	HA105_4-8'
M96257-4A	12/01/10	14:25 MD	12/01/10	SO	Soil	HA105_4-8'
W170237-4A	12/01/10	17.23 WID	12/01/10	30	5011	IIA102_4-0
M96257-5	12/01/10	12:30 MD	12/01/10	SO	Soil	HA104_0-4'
M96257-5A	12/01/10	12:30 MD	12/01/10	SO	Soil	HA104_0-4'
M96257-6	12/01/10	13:05 MD	12/01/10	SO	Soil	HA104_8-13.2'
						_
M96257-6A	12/01/10	13:05 MD	12/01/10	SO	Soil	HA104_8-13.2'
				~~		*************
M96257-6D	12/01/10	13:05 MD	12/01/10	SO	Soil Dup/MSD	HA104_8-13.2'

Soil samples reported on a dry weight basis unless otherwise indicated on result page.





# Sample Summary (continued)

Haley & Aldrich

Job No: M96257

Former Energy International Parcel, MA Project No: 06318-502

Sample Number	Collected Date	Time By	Received	Matr Code		Client Sample ID
M96257-6S	12/01/10	13:05 MD	12/01/10	SO	Soil Matrix Spike	HA104_8-13.2'
M96257-7	12/01/10	10:30 MD	12/01/10	SO	Soil	HA103_0-4'
M96257-7A	12/01/10	10:30 MD	12/01/10	SO	Soil	HA103_0-4'
M96257-8	12/01/10	10:50 MD	12/01/10	SO	Soil	HA103_4-8'
M96257-8A	12/01/10	10:50 MD	12/01/10	SO	Soil	HA103_4-8'
M96257-9	12/01/10	11:10 MD	12/01/10	SO	Soil	HA103_8-12'
M96257-9A	12/01/10	11:10 MD	12/01/10	SO	Soil	HA103_8-12'

Soil samples reported on a dry weight basis unless otherwise indicated on result page.





### SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Haley & Aldrich Job No M96257

Site: Former Energy International Parcel, MA Report Date 12/22/2010 5:10:24 PM

9 Sample(s) were collected on 12/01/2010 and were received at Accutest on 12/01/2010 properly preserved, at 2.1 Deg. C and intact. These Samples received an Accutest job number of M96257. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

### Volatiles by GCMS By Method SW846 8260B

Matrix SO Batch ID: MSR663

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96199-5MS, M96199-5MSD were used as the QC samples indicated.
- Blank Spike Recovery(s) for Hexachlorobutadiene, Isopropylbenzene are outside control limits. Blank Spike meets program technical requirements.
- Matrix Spike Recovery(s) for Vinyl chloride are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- Matrix Spike Duplicate Recovery(s) for 2-Hexanone, Acetone, Carbon tetrachloride, Hexachlorobutadiene, Isopropylbenzene are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- The response factor (RF) for the 2-Butanone low point in the initial calibration MSR638-ICC638 is 0.028, less than the required RF of 0.1 as noted in Table 4 of SW846 8260C. 2-Butanone is a potential differicult compound.
- M96257-2 for Dibromofluoromethane: Outside control limits due to possible matrix interference. Confirmed by reanalysis.
- BSD Recovery(s) for Carbon tetrachloride, Dibromochloromethane, Tetrachloroethene, Hexachlorobutadiene, Isopropylbenzene are outside control limits. Blank Spike meets program technical requirements.
- Initial calibration verification MSR638-ICV638 for acetone, isopropylbenzene exceed 30% Difference.
- Continuing calibration check standard MSR663-CC638 for chloromethane, trichlorofluoromethane, Tetrahydrofuran, carbon tetrachloride, dibromochloromethane, 1,1,1,2-tetrachloroethane, hexachlorobutadiene exceed 20% Difference. This check standard met MCP criteria.
- M96257-2 has internal standards outside control limits. Outside control limits due to possible matrix interference. Confirmed by reanalysis.

Matrix SO Batch ID: MSR666

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96257-6MS, M96257-6MSD were used as the QC samples indicated.
- Blank Spike Recovery(s) for Isopropylbenzene, Tetrachloroethene are outside control limits. Blank Spike meets program technical requirements.
- Matrix Spike Recovery(s) for 2-Hexanone, Dibromochloromethane, Hexachlorobutadiene, Isopropylbenzene, Naphthalene, Styrene, Tetrachloroethene are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- Matrix Spike Duplicate Recovery(s) for 2-Hexanone, Dibromochloromethane, Hexachlorobutadiene, Isopropylbenzene are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- M96257-2: Confirmation run for surrogate recoveries.
- M96257-2 has internal standards outside control limits. Outside control limits due to possible matrix interference. Confirmed by reanalysis.



### Extractables by GCMS By Method SW846 8270C

Matrix SO Batch ID: OP23538

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) M96289-4MS were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Initial calibration verification standard MSS822-ICV822, file S19885 for Aniline, Nitrobenzene-d5, 4-Chloroaniline, 2-Fluorobiphenyl, Terphenyl-d14, 3,3'-Dichlorobenzidine exceeds 30% Difference. Initial calibration verification standard MSS822-ICV822, file S19884 for 2-Fluorophenol, Phenol-d5, 2,4,6-Tribromophenol exceeds 30% Difference
- Matrix Spike Recovery(s) for Phenanthrene, Pyrene are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- OP23538-BS for Acetophenone: Outside control limits. Associated samples are non-detect for this compound.
- MS for 2, 4-Dinitrophenol is outside control limits. Refer to Blank spike.
- OP23538-MS for Benzoic acid, Hexachlorocyclopentadiene, Pentachlorophenol: Outside control limits due to possible matrix interference. Refer to Blank Spike.

### Volatiles by GC By Method MADEP VPH REV 1.1

Matrix SO

Batch ID: GBH929

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- M96257-1, M96257-3, M96257-5, M96257-9: Soil to methanol ratio greater than 1.25 to 1.
- Only range requested.

## **Extractables by GC By Method MADEP EPH REV 1.1**

Matrix SO

Batch ID: OP23590

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) M96289-4MS, M96289-4MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- RPD of Matrix Spike Duplicate Recovery(s) for C11-C22 Aromatics (Unadj.) are outside control limits. Outside control limits due to possible matrix interference.
- MSD for C11-C22 Aromatics (Unadj.) are outside control limits for sample OP23590-MSD. Outside control limits due to high level in sample relative to spike amount.
- M96257-2 for C11-C22 Aromatics (Unadj.):, C19-C36 Aliphatics, C9-C18 Aliphatics, C11-C22 Aromatics: Elevated RL due to dilution required for matrix interference.
- M96257-7 for 1-Chlorooctadecane: Outside control limits due to possible matrix interference. Confirmed by reanalysis.
- M96257-2 for o-Terphenyl: Outside control limits due to matrix interference. Confirmed by reanalysis.
- M96257-8 for 1-Chlorooctadecane: Outside control limits due to possible matrix interference. Confirmed by refractionation.
- OP23590-BS for C11-C22 Aromatics (Unadj.): Aromatic breakthrough (naphthalene and/or 2-methylnaphthalene) exceeded 5% method limit. Results confirmed by refractionation.
- Only range requested.

### Metals By Method SW846 6010C

Matrix LEACHATE

Batch ID: MP16339

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96225-8ADUP, M96225-8AMS, M96225-8ASDL were used as the QC samples for metals.

Matrix SO

Batch ID: MP16330

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96225-8DUP, M96225-8MS, M96225-8PS, M96225-8DL, M96225-8DUP were used as the QC samples for metals.
- Matrix Spike Recovery(s) for Antimony, Lead are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity. Post spike within acceptable range.
- RPD(s) for Duplicate for Antimony are outside control limits for sample MP16330-D1. RPD acceptable due to low duplicate and sample concentrations.
- RPD(s) for Serial Dilution for Antimony are outside control limits for sample MP16330-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).</p>
- M96257-9 for Antimony: Elevated RL due to dilution required for matrix interference.
- MP16330-SD1 for Zinc: Serial dilution indicates possible matrix interference.

Matrix SO

Batch ID: MP16338

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96289-4DUP, M96289-4MS, M96289-4PS, M96289-4SDL, M96289-4DUP were used as the QC samples for metals.
- Matrix Spike Recovery(s) for Nickel, Antimony, Barium are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity. Post spike is not within acceptable range.
- Matrix Spike Recovery(s) for Lead, Zinc are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- RPD(s) for Duplicate for Antimony, Barium, Lead, Silver are outside control limits for sample MP16338-D1. High RPD due to possible matrix interference and/or sample non-homogeneity.
- RPD(s) for Serial Dilution for Cadmium are outside control limits for sample MP16338-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).</p>
- MP16338-S1 for Antimony: Spike recovery indicates possible matrix interference and/or sample nonhomogeneity. Post spike within acceptable range.
- MP16338-S1 for Barium: Spike recovery indicates possible matrix interference and/or sample nonhomogeneity. Post spike within acceptable range.
- MP16338-SD1 for Zinc: Serial dilution indicates possible matrix interference.



### Metals By Method SW846 7471A

Matrix SO Batch ID: MP16331

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96199-5DUP, M96199-5MS were used as the QC samples for metals.
- Matrix Spike Recovery(s) for Mercury are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
- RPD(s) for Duplicate for Mercury are outside control limits for sample MP16331-D1. High RPD due to possible matrix interference and/or sample non-homogeneity.

Matrix SO Batch ID: MP16345

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96289-4DUP, M96289-4MS were used as the QC samples for metals.

### Wet Chemistry By Method ASTM D1498-76M

Matrix SO Batch ID: GN33622

- Sample(s) M96225-8DUP were used as the QC samples for Redox Potential Vs H2.
- M96257-1 through M96257-9 for Redox Potential Vs H2: Analysis requested after recommended holding time.
- GN33622-D1 for Redox Potential Vs H2: Analysis requested after recommended holding time.

## Wet Chemistry By Method SM21 2540 B MOD.

Matrix SO Batch ID: GN33610

Sample(s) M96256-22DUP were used as the QC samples for Solids, Percent.

Matrix SO Batch ID: GN33620

Sample(s) M96289-4DUP were used as the QC samples for Solids, Percent.

### Wet Chemistry By Method SW846 1020

Matrix SO Batch ID: GN33600

Sample(s) M96199-5DUP were used as the QC samples for Ignitability (Flashpoint).

Matrix SO Batch ID: GN33658

Sample(s) M96289-4DUP were used as the QC samples for Ignitability (Flashpoint).



### Wet Chemistry By Method SW846 CHAP7

Matrix SO Batch ID: GN33617

Sample(s) M96225-8DUP were used as the QC samples for Corrosivity as pH.

Matrix SO Batch ID: GP12387

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96289-4DUP, M96289-4MS were used as the QC samples for Cyanide Reactivity.

Matrix SO Batch ID: GP12388

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96289-4DUP, M96289-4MS were used as the QC samples for Sulfide Reactivity.

Accutest may not have met all requested limits due to methodology limitations, sample matrix, dilutions, or percents solids.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety. The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(M96257).



Sample Results		
Daniel Charles		
Report of Analysis	<b>,</b>	



Client Sample ID: HA106\_0-4' Lab Sample ID: M96257-1

16.5 g

Matrix: SO - Soil
Method: SW846 8260B

**Project:** Former Energy International Parcel, MA

10.0 ml

Date Sampled: 12/01/10
Date Received: 12/01/10
Percent Solids: 90.8

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 R18627.D 1 12/07/10 GKn/aMSR663 n/aRun #2

100 ul

Initial Weight Final Volume Methanol Aliquot

Run #1 Run #2

### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	190	ug/kg	
71-43-2	Benzene	ND	19	ug/kg	
108-86-1	Bromobenzene	ND	190	ug/kg	
74-97-5	Bromochloromethane	ND	190	ug/kg	
75-27-4	Bromodichloromethane	ND	77	ug/kg	
75-25-2	Bromoform	ND	77	ug/kg	
74-83-9	Bromomethane	ND	77	ug/kg	
78-93-3	2-Butanone (MEK)	ND	190	ug/kg	
104-51-8	n-Butylbenzene	ND	190	ug/kg	
135-98-8	sec-Butylbenzene	ND	190	ug/kg	
98-06-6	tert-Butylbenzene	ND	190	ug/kg	
75-15-0	Carbon disulfide	ND	190	ug/kg	
56-23-5	Carbon tetrachloride	ND	77	ug/kg	
108-90-7	Chlorobenzene	ND	77	ug/kg	
75-00-3	Chloroethane	ND	190	ug/kg	
67-66-3	Chloroform	ND	77	ug/kg	
74-87-3	Chloromethane	ND	190	ug/kg	
95-49-8	o-Chlorotoluene	ND	190	ug/kg	
106-43-4	p-Chlorotoluene	ND	190	ug/kg	
108-20-3	Di-Isopropyl ether	ND	77	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	190	ug/kg	
124-48-1	Dibromochloromethane	ND	77	ug/kg	
106-93-4	1,2-Dibromoethane	ND	77	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	77	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	77	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	77	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	77	ug/kg	
75-34-3	1,1-Dichloroethane	ND	77	ug/kg	
107-06-2	1,2-Dichloroethane	ND	77	ug/kg	
75-35-4	1,1-Dichloroethene	ND	77	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	77	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	77	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



**VOA MCP List** 

# **Report of Analysis**

**Date Sampled:** 12/01/10

**Date Received:** 12/01/10

Percent Solids: 90.8

Client Sample ID: HA106\_0-4'
Lab Sample ID: M96257-1

Matrix: SO - Soil Method: SW846 8260B

**Project:** Former Energy International Parcel, MA

# Former Energy International Parcer, MA

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	77	ug/kg	
142-28-9	1,3-Dichloropropane	ND	190	ug/kg	
594-20-7	2,2-Dichloropropane	ND	190	ug/kg	
563-58-6	1,1-Dichloropropene	ND	190	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	77	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	77	ug/kg	
123-91-1	1,4-Dioxane	ND	960	ug/kg	
60-29-7	Ethyl Ether	ND	190	ug/kg	
100-41-4	Ethylbenzene	ND	77	ug/kg	
87-68-3	Hexachlorobutadiene	ND	190	ug/kg	
591-78-6	2-Hexanone	ND	190	ug/kg	
98-82-8	Isopropylbenzene	ND	190	ug/kg	
99-87-6	p-Isopropyltoluene	ND	190	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	77	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	190	ug/kg	
74-95-3	Methylene bromide	ND	190	ug/kg	
75-09-2	Methylene chloride	ND	77	ug/kg	
91-20-3	Naphthalene	ND	190	ug/kg	
103-65-1	n-Propylbenzene	ND	190	ug/kg	
100-42-5	Styrene	ND	190	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	190	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	77	ug/kg	
630-20-6	1, 1, 1, 2-Tetrachloroethane	ND	190	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	77	ug/kg	
127-18-4	Tetrachloroethene	ND	77	ug/kg	
109-99-9	Tetrahydrofuran	ND	380	ug/kg	
108-88-3	Toluene	ND	190	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	190	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	190	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	77	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	77	ug/kg	
79-01-6	Trichloroethene	ND	77	ug/kg	
75-69-4	Trichlorofluoromethane	ND	77	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	190	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	190	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	190	ug/kg	
75-01-4	Vinyl chloride	ND	77	ug/kg	
	m,p-Xylene	ND	77	ug/kg	
95-47-6	o-Xylene	ND	77	ug/kg	
1330-20-7	Xylene (total)	ND	77	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Client Sample ID: HA106\_0-4'

 Lab Sample ID:
 M96257-1
 Date Sampled:
 12/01/10

 Matrix:
 SO - Soil
 Date Received:
 12/01/10

 Method:
 SW846 8260B
 Percent Solids:
 90.8

**Project:** Former Energy International Parcel, MA

### **VOA MCP List**

CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		70-130%
2037-26-5	Toluene-D8	107%		70-130%
460-00-4	4-Bromofluorobenzene	104%		70-130%

ND = Not detected

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J = Indicates an estimated value

 $B = \ \, \text{Indicates analyte found in associated method blank}$ 

N = Indicates presumptive evidence of a compound



Client Sample ID: HA106\_0-4' Lab Sample ID: M96257-1

SO - Soil Method: SW846 8270C SW846 3510C

**Project:** Former Energy International Parcel, MA **Date Sampled:** 12/01/10 **Date Received:** 12/01/10

Percent Solids: 90.8

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 S19963.D 1 12/13/10 PR 12/06/10 OP23538 MSS826

Run #2

Matrix:

**Final Volume Initial Weight** 

Run #1 1.0 ml 20.3 g

Run #2

### **ABN MCP List**

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	540	ug/kg	
95-57-8	2-Chlorophenol	ND	270	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	540	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	540	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	540	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1100	ug/kg	
95-48-7	2-Methylphenol	ND	540	ug/kg	
	3&4-Methylphenol	ND	540	ug/kg	
88-75-5	2-Nitrophenol	ND	540	ug/kg	
100-02-7	4-Nitrophenol	ND	1100	ug/kg	
87-86-5	Pentachlorophenol	ND	540	ug/kg	
108-95-2	Phenol	ND	270	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	540	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	540	ug/kg	
83-32-9	Acenaphthene	436	270	ug/kg	
208-96-8	Acenaphthylene	ND	270	ug/kg	
98-86-2	Acetophenone	ND	540	ug/kg	
62-53-3	Aniline	ND	540	ug/kg	
120-12-7	Anthracene	914	270	ug/kg	
56-55-3	Benzo(a)anthracene	1560	270	ug/kg	
50-32-8	Benzo(a)pyrene	1250	270	ug/kg	
205-99-2	Benzo(b)fluoranthene	1260	270	ug/kg	
191-24-2	Benzo(g,h,i)perylene	1090	270	ug/kg	
207-08-9	Benzo(k)fluoranthene	1050	270	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	270	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	270	ug/kg	
91-58-7	2-Chloronaphthalene	ND	270	ug/kg	
106-47-8	4-Chloroaniline	ND	540	ug/kg	
218-01-9	Chrysene	1580	270	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	270	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	270	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	270	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



Client Sample ID: HA106\_0-4' Lab Sample ID: M96257-1

Matrix: SO - Soil

**Method:** SW846 8270C SW846 3510C

**Project:** Former Energy International Parcel, MA

**Date Sampled:** 12/01/10 **Date Received:** 12/01/10 **Percent Solids:** 90.8

### **ABN MCP List**

CAS No.	Compound	Result	RL	Units Q
95-50-1	1,2-Dichlorobenzene	ND	270	ug/kg
122-66-7	1,2-Diphenylhydrazine	ND	270	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	270	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	270	ug/kg
121-14-2	2,4-Dinitrotoluene	ND	540	ug/kg
606-20-2	2,6-Dinitrotoluene	ND	540	ug/kg
91-94-1	3,3'-Dichlorobenzidine	ND	270	ug/kg
53-70-3	Dibenzo(a,h)anthracene	379	270	ug/kg
132-64-9	Dibenzofuran	326	270	ug/kg
84-74-2	Di-n-butyl phthalate	ND	270	ug/kg
117-84-0	Di-n-octyl phthalate	ND	270	ug/kg
84-66-2	Diethyl phthalate	ND	270	ug/kg
131-11-3	Dimethyl phthalate	ND	270	ug/kg
117-81-7	bis(2-Ethylhexyl)phthalate	ND	270	ug/kg
206-44-0	Fluoranthene	3020	270	ug/kg
86-73-7	Fluorene	463	270	ug/kg
118-74-1	Hexachlorobenzene	ND	270	ug/kg
87-68-3	Hexachlorobutadiene	ND	270	ug/kg
77-47-4	Hexachlorocyclopentadiene	ND	540	ug/kg
67-72-1	Hexachloroethane	ND	270	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	1030	270	ug/kg
78-59-1	Isophorone	ND	270	ug/kg
91-57-6	2-Methylnaphthalene	ND	270	ug/kg
91-20-3	Naphthalene	396	270	ug/kg
98-95-3	Nitrobenzene	ND	270	ug/kg
621-64-7	N-Nitroso-di-n-propylamine	ND	270	ug/kg
86-30-6	N-Nitrosodiphenylamine	ND	270	ug/kg
85-01-8	Phenanthrene	3150	270	ug/kg
129-00-0	Pyrene	2900	270	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	270	ug/kg
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	62%		30-130%
4165-62-2	Phenol-d5	62%		30-130%
118-79-6	2,4,6-Tribromophenol	77%		30-130%
4165-60-0	Nitrobenzene-d5	63%		30-130%
321-60-8	2-Fluorobiphenyl	75%		30-130%
1718-51-0	Terphenyl-d14	81%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



# **Report of Analysis**

Client Sample ID: HA106\_0-4' Lab Sample ID: M96257-1

Lab Sample ID:M96257-1Date Sampled:12/01/10Matrix:SO - SoilDate Received:12/01/10Method:MADEP VPH REV 1.1Percent Solids:90.8

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch Run #1 a BH17824.D 1 12/07/10 WS n/a n/a GBH929

Run #2

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	16.5 g	11.0 ml	100 ul
Run #2			

### **Volatile TPHC Ranges**

CAS No.	Compound	Result	RL	Units Q
	C5- C8 Aliphatics (Unadj.) C9- C12 Aliphatics (Unadj.) C9- C10 Aromatics (Unadj.) C5- C8 Aliphatics C9- C12 Aliphatics	ND ND ND ND ND	4200 4200 4200 4200 4200	ug/kg ug/kg ug/kg ug/kg ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
615-59-8 615-59-8	2,5-Dibromotoluene 2,5-Dibromotoluene	88% 83%		70-130% 70-130%

(a) Soil to methanol ratio greater than 1.25 to 1.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound



C

**Date Sampled:** 12/01/10

Client Sample ID: HA106\_0-4' Lab Sample ID: M96257-1

Matrix: SO - Soil Method:

**Project:** Former Energy International Parcel, MA

**Date Received:** 12/01/10 MADEP EPH REV 1.1 SW846 3545 Percent Solids: 90.8

File ID DF **Prep Date Analytical Batch** Analyzed By **Prep Batch** GBI102 Run #1 BI2726.D 1 12/13/10 JD 12/10/10 OP23590

Run #2

**Initial Weight Final Volume** 

Run #1 11.5 g 2.0 ml

Run #2

#### **Extractable TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C11-C22 Aromatics (Unadj.) C9-C18 Aliphatics C19-C36 Aliphatics C11-C22 Aromatics	51900 ND 39800 42500	19000 9600 9600 19000	ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its
84-15-1	o-Terphenyl	95%		40-1	40%
321-60-8	2-Fluorobiphenyl	84%		40-1	40%
580-13-2	2-Bromonaphthalene	63%		40-1	40%
3386-33-2	1-Chlorooctadecane	45%		40-1	40%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



 Client Sample ID:
 HA106\_0-4'

 Lab Sample ID:
 M96257-1
 Date Sampled:
 12/01/10

 Matrix:
 SO - Soil
 Date Received:
 12/01/10

 Percent Solids:
 90.8

**Project:** Former Energy International Parcel, MA

#### **Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	<b>Prep Method</b>
Antimony	< 0.85	0.85	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Arsenic	7.8	0.85	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Barium	68.7	4.2	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Beryllium	0.38	0.34	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Cadmium	< 0.34	0.34	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Chromium	14.1	0.85	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Lead	166	0.85	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Mercury	0.44	0.034	mg/kg	1	12/03/10	12/03/10 PY	SW846 7471A <sup>2</sup>	SW846 7471A <sup>4</sup>
Nickel	11.2	3.4	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Selenium	< 0.85	0.85	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Silver	< 0.42	0.42	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Thallium	< 0.85	0.85	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Vanadium	19.9	0.85	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Zinc	88.7	1.7	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>

(1) Instrument QC Batch: MA12490(2) Instrument QC Batch: MA12492(3) Prep QC Batch: MP16330(4) Prep QC Batch: MP16331

Page 1 of 1

Client Sample ID: HA106\_0-4'
Lab Sample ID: M96257-1
Matrix: SO - Soil

**Date Sampled:** 12/01/10 **Date Received:** 12/01/10 **Percent Solids:** 90.8

**Project:** Former Energy International Parcel, MA

#### **General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	8.4			1	12/03/10	MA	SW846 CHAP7
Cyanide Reactivity	< 1.7	1.7	mg/kg	1	12/08/10	BF	SW846 CHAP7
Ignitability (Flashpoint)	> 230		Deg. F	1	12/08/10	BF	SW846 1020
Redox Potential Vs H2 a	446		mv	1	12/03/10	MC	ASTM D1498-76M
Solids, Percent	90.8		%	1	12/03/10	HS	SM21 2540 B MOD.
Sulfide Reactivity	< 55	55	mg/kg	1	12/08/10	BF	SW846 CHAP7

(a) Analysis requested after recommended holding time.

Matrix:

# **Report of Analysis**

Page 1 of 1

Client Sample ID: HA106\_0-4' Lab Sample ID: M96257-1A

Date Sampled: 12/01/10
Date Received: 12/01/10
Percent Solids: 90.8

**Project:** Former Energy International Parcel, MA

Metals Analysis, TCLP Leachate SW846 1311

SO - Soil

Result HW# MCL RL **Prep Method** Analyte Units DF Prep Analyzed By Method SW846 6010C <sup>1</sup> SW846 3010A <sup>2</sup> Lead 0.28 D008 5.0 0.010 12/07/10 12/07/10 DA mg/l

(1) Instrument QC Batch: MA12502

(2) Prep QC Batch: MP16339

RL = Reporting Limit

MCL = Maximum Contamination Level (40 CFR 261 6/96)



C

Client Sample ID: HA106\_8-12.5'

 Lab Sample ID:
 M96257-2
 Date Sampled:
 12/01/10

 Matrix:
 SO - Soil
 Date Received:
 12/01/10

 Method:
 SW846 8260B
 Percent Solids:
 79.7

**Project:** Former Energy International Parcel, MA

	File ID	DF	Analyzed	By	<b>Prep Date</b>	Prep Batch	<b>Analytical Batch</b>
Run #1	R18633.D	1	12/07/10	GK	n/a	n/a	MSR663
Run #2 a	R18693.D	1	12/09/10	GK	n/a	n/a	MSR666

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	12.3 g	10.0 ml	100 ul
Run #2	12.3 g	10.0 ml	100 ul

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	320	ug/kg	
71-43-2	Benzene	102	32	ug/kg	
108-86-1	Bromobenzene	ND	320	ug/kg	
74-97-5	Bromochloromethane	ND	320	ug/kg	
75-27-4	Bromodichloromethane	ND	130	ug/kg	
75-25-2	Bromoform	ND	130	ug/kg	
74-83-9	Bromomethane	ND	130	ug/kg	
78-93-3	2-Butanone (MEK)	ND	320	ug/kg	
104-51-8	n-Butylbenzene	ND	320	ug/kg	
135-98-8	sec-Butylbenzene	ND	320	ug/kg	
98-06-6	tert-Butylbenzene	ND	320	ug/kg	
75-15-0	Carbon disulfide	ND	320	ug/kg	
56-23-5	Carbon tetrachloride	ND	130	ug/kg	
108-90-7	Chlorobenzene	ND	130	ug/kg	
75-00-3	Chloroethane	ND	320	ug/kg	
67-66-3	Chloroform	ND	130	ug/kg	
74-87-3	Chloromethane	ND	320	ug/kg	
95-49-8	o-Chlorotoluene	ND	320	ug/kg	
106-43-4	p-Chlorotoluene	ND	320	ug/kg	
108-20-3	Di-Isopropyl ether	ND	130	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	320	ug/kg	
124-48-1	Dibromochloromethane	ND	130	ug/kg	
106-93-4	1,2-Dibromoethane	ND	130	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	130	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	130	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	130	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	130	ug/kg	
75-34-3	1,1-Dichloroethane	ND	130	ug/kg	
107-06-2	1,2-Dichloroethane	ND	130	ug/kg	
75-35-4	1,1-Dichloroethene	ND	130	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	130	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	130	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



W

 Client Sample ID:
 HA106\_8-12.5'

 Lab Sample ID:
 M96257-2
 Date Sampled:
 12/01/10

 Matrix:
 SO - Soil
 Date Received:
 12/01/10

 Method:
 SW846 8260B
 Percent Solids:
 79.7

**Project:** Former Energy International Parcel, MA

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	130	ug/kg	
142-28-9	1,3-Dichloropropane	ND	320	ug/kg	
594-20-7	2,2-Dichloropropane	ND	320	ug/kg	
563-58-6	1,1-Dichloropropene	ND	320	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	130	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	130	ug/kg	
123-91-1	1,4-Dioxane	ND	1600	ug/kg	
60-29-7	Ethyl Ether	ND	320	ug/kg	
100-41-4	Ethylbenzene	ND	130	ug/kg	
87-68-3	Hexachlorobutadiene	ND	320	ug/kg	
591-78-6	2-Hexanone	ND	320	ug/kg	
98-82-8	Isopropylbenzene	ND	320	ug/kg	
99-87-6	p-Isopropyltoluene	ND	320	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	130	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	320	ug/kg	
74-95-3	Methylene bromide	ND	320	ug/kg	
75-09-2	Methylene chloride	ND	130	ug/kg	
91-20-3	Naphthalene	5750	320	ug/kg	
103-65-1	n-Propylbenzene	ND	320	ug/kg	
100-42-5	Styrene	ND	320	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	320	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	130	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	320	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	130	ug/kg	
127-18-4	Tetrachloroethene	ND	130	ug/kg	
109-99-9	Tetrahydrofuran	ND	640	ug/kg	
108-88-3	Toluene	ND	320	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	320	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	320	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	130	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	130	ug/kg	
79-01-6	Trichloroethene	ND	130	ug/kg	
75-69-4	Trichlorofluoromethane	ND	130	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	320	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	545	320	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	320	ug/kg	
75-01-4	Vinyl chloride	ND	130	ug/kg	
	m,p-Xylene	351	130	ug/kg	
95-47-6	o-Xylene	ND	130	ug/kg	
1330-20-7	Xylene (total)	466	130	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Page 3 of 3

Client Sample ID: HA106\_8-12.5'

 Lab Sample ID:
 M96257-2
 Date Sampled:
 12/01/10

 Matrix:
 SO - Soil
 Date Received:
 12/01/10

 Method:
 SW846 8260B
 Percent Solids:
 79.7

**Project:** Former Energy International Parcel, MA

#### **VOA MCP List**

CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	18% b	14% b	70-130%
2037-26-5	Toluene-D8	116%	100%	70-130%
460-00-4	4-Bromofluorobenzene	94%	120%	70-130%

(a) Confirmation run for surrogate recoveries.

(b) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



63

**Date Sampled:** 12/01/10

**Date Received:** 12/01/10

**Percent Solids:** 79.7

Client Sample ID: HA106\_8-12.5'
Lab Sample ID: M96257-2

Matrix: SO - Soil

**Method:** SW846 8270C SW846 3510C

**Project:** Former Energy International Parcel, MA

 File ID
 DF
 Analyzed
 By
 Prep Date
 Prep Batch
 Analytical Batch

 Run #1
 \$19964.D
 20
 \$12/13/10
 PR
 \$12/06/10
 OP23538
 MSS826

Run #2

Initial Weight Final Volume

Run #1 20.1 g 1.0 ml

Run #2

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	13000	ug/kg	
95-57-8	2-Chlorophenol	ND	6300	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	13000	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	13000	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	13000	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	25000	ug/kg	
95-48-7	2-Methylphenol	ND	13000	ug/kg	
	3&4-Methylphenol	ND	13000	ug/kg	
88-75-5	2-Nitrophenol	ND	13000	ug/kg	
100-02-7	4-Nitrophenol	ND	25000	ug/kg	
87-86-5	Pentachlorophenol	ND	13000	ug/kg	
108-95-2	Phenol	ND	6300	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	13000	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	13000	ug/kg	
83-32-9	Acenaphthene	ND	6300	ug/kg	
208-96-8	Acenaphthylene	9470	6300	ug/kg	
98-86-2	Acetophenone	ND	13000	ug/kg	
62-53-3	Aniline	ND	13000	ug/kg	
120-12-7	Anthracene	11200	6300	ug/kg	
56-55-3	Benzo(a)anthracene	38900	6300	ug/kg	
50-32-8	Benzo(a)pyrene	16600	6300	ug/kg	
205-99-2	Benzo(b)fluoranthene	19700	6300	ug/kg	
191-24-2	Benzo(g,h,i)perylene	13500	6300	ug/kg	
207-08-9	Benzo(k)fluoranthene	7010	6300	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	6300	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	6300	ug/kg	
91-58-7	2-Chloronaphthalene	ND	6300	ug/kg	
106-47-8	4-Chloroaniline	ND	13000	ug/kg	
218-01-9	Chrysene	69200	6300	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	6300	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	6300	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	6300	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Client Sample ID: HA106\_8-12.5' Lab Sample ID: M96257-2

SO - Soil Method: SW846 8270C SW846 3510C

**Project:** Former Energy International Parcel, MA

#### **Date Received:** 12/01/10 **Percent Solids:** 79.7

**Date Sampled:** 12/01/10

#### **ABN MCP List**

Matrix:

CAS No.	Compound	Result	RL	Units Q
95-50-1	1,2-Dichlorobenzene	ND	6300	ug/kg
122-66-7	1,2-Diphenylhydrazine	ND	6300	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	6300	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	6300	ug/kg
121-14-2	2,4-Dinitrotoluene	ND	13000	ug/kg
606-20-2	2,6-Dinitrotoluene	ND	13000	ug/kg
91-94-1	3,3'-Dichlorobenzidine	ND	6300	ug/kg
53-70-3	Dibenzo(a,h)anthracene	19000	6300	ug/kg
132-64-9	Dibenzofuran	8210	6300	ug/kg
84-74-2	Di-n-butyl phthalate	ND	6300	ug/kg
117-84-0	Di-n-octyl phthalate	ND	6300	ug/kg
84-66-2	Diethyl phthalate	ND	6300	ug/kg
131-11-3	Dimethyl phthalate	ND	6300	ug/kg
117-81-7	bis(2-Ethylhexyl)phthalate	ND	6300	ug/kg
206-44-0	Fluoranthene	25200	6300	ug/kg
86-73-7	Fluorene	10600	6300	ug/kg
118-74-1	Hexachlorobenzene	ND	6300	ug/kg
87-68-3	Hexachlorobutadiene	ND	6300	ug/kg
77-47-4	Hexachlorocyclopentadiene	ND	13000	ug/kg
67-72-1	Hexachloroethane	ND	6300	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	10900	6300	ug/kg
78-59-1	Isophorone	ND	6300	ug/kg
91-57-6	2-Methylnaphthalene	9330	6300	ug/kg
91-20-3	Naphthalene	35100	6300	ug/kg
98-95-3	Nitrobenzene	ND	6300	ug/kg
621-64-7	N-Nitroso-di-n-propylamine	ND	6300	ug/kg
86-30-6	N-Nitrosodiphenylamine	ND	6300	ug/kg
85-01-8	Phenanthrene	39500	6300	ug/kg
129-00-0	Pyrene	22600	6300	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	6300	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	61%		30-130%
4165-62-2	Phenol-d5	60%		30-130%
118-79-6	2,4,6-Tribromophenol	59%		30-130%
4165-60-0	Nitrobenzene-d5	58%		30-130%
321-60-8	2-Fluorobiphenyl	70%		30-130%
1718-51-0	Terphenyl-d14	78%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$ N = Indicates presumptive evidence of a compound



#### Page 1 of 1

## **Report of Analysis**

Client Sample ID: HA106\_8-12.5'

Lab Sample ID:M96257-2Date Sampled:12/01/10Matrix:SO - SoilDate Received:12/01/10Method:MADEP VPH REV 1.1Percent Solids:79.7

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BH17825.D 1 12/07/10 WS n/a n/a GBH929

Run #2

Initial Weight Final Volume Methanol Aliquot
Run #1 12.3 g 11.0 ml 100 ul
Run #2

#### **Volatile TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C5- C8 Aliphatics (Unadj.) C9- C12 Aliphatics (Unadj.)	17100 24500	6900 6900	ug/kg ug/kg	
	C9- C10 Aromatics (Unadj.) C5- C8 Aliphatics C9- C12 Aliphatics	18200 16800 ND	6900 6900 6900	ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	its
615-59-8 615-59-8	2,5-Dibromotoluene 2,5-Dibromotoluene	128% 119%		70-13 70-13	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



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#### Page 1 of 1

### **Report of Analysis**

Client Sample ID: HA106\_8-12.5'

 Lab Sample ID:
 M96257-2
 Date Sampled:
 12/01/10

 Matrix:
 SO - Soil
 Date Received:
 12/01/10

 Method:
 MADEP EPH REV 1.1 SW846 3545
 Percent Solids:
 79.7

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BI2753.D 5 12/14/10 JD 12/10/10 OP23590 GBI102

Run #2

Initial Weight Final Volume

Run #1 11.5 g 2.0 ml

Run #2

#### **Extractable TPHC Ranges**

CAS No.	Compound	Result	RL	Units (	9
	C11-C22 Aromatics (Unadj.) <sup>a</sup> C9-C18 Aliphatics <sup>a</sup> C19-C36 Aliphatics <sup>a</sup>	5510000 265000 4860000	110000 55000 55000	ug/kg ug/kg ug/kg	
	C11-C22 Aromatics <sup>a</sup>	5300000	110000	ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	167% b		40-140	%
321-60-8	2-Fluorobiphenyl	89%		40-140	%
580-13-2	2-Bromonaphthalene	71%		40-140	%

- (a) Elevated RL due to dilution required for matrix interference.
- (b) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

 $N = \ Indicates \ presumptive \ evidence \ of \ a \ compound$ 



 Client Sample ID:
 HA106\_8-12.5'

 Lab Sample ID:
 M96257-2
 Date Sampled:
 12/01/10

 Matrix:
 SO - Soil
 Date Received:
 12/01/10

 Percent Solids:
 79.7

**Project:** Former Energy International Parcel, MA

#### **Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	7.6	0.97	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Arsenic	16.0	0.97	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Barium	128	4.8	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Beryllium	< 0.39	0.39	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Cadmium	0.75	0.39	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Chromium	10.9	0.97	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Lead	588	0.97	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Mercury	1.6	0.11	mg/kg	3	12/03/10	12/03/10 PY	SW846 7471A <sup>2</sup>	SW846 7471A <sup>4</sup>
Nickel	11.3	3.9	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Selenium	3.9	0.97	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Silver	1.3	0.48	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Thallium	< 0.97	0.97	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Vanadium	16.8	0.97	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Zinc	372	1.9	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>

(1) Instrument QC Batch: MA12490(2) Instrument QC Batch: MA12492(3) Prep QC Batch: MP16330(4) Prep QC Batch: MP16331

S Page 1 of 1

**Client Sample ID:** HA106\_8-12.5' **Lab Sample ID:** M96257-2

**Date Sampled:** 12/01/10 **Date Received:** 12/01/10 **Percent Solids:** 79.7

**Project:** Former Energy International Parcel, MA

SO - Soil

#### **General Chemistry**

Matrix:

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	7.5			1	12/03/10	MA	SW846 CHAP7
Cyanide Reactivity	< 1.9	1.9	mg/kg	1	12/08/10	BF	SW846 CHAP7
Ignitability (Flashpoint)	> 230		Deg. F	1	12/08/10	BF	SW846 1020
Redox Potential Vs H2 <sup>a</sup>	322		mv	1	12/03/10	MC	ASTM D1498-76M
Solids, Percent	79.7		%	1	12/03/10	HS	SM21 2540 B MOD.
Sulfide Reactivity	< 63	63	mg/kg	1	12/08/10	BF	SW846 CHAP7

(a) Analysis requested after recommended holding time.

C

Client Sample ID: HA106\_8-12.5'

 Lab Sample ID:
 M96257-2A
 Date Sampled:
 12/01/10

 Matrix:
 SO - Soil
 Date Received:
 12/01/10

 Percent Solids:
 79.7

**Project:** Former Energy International Parcel, MA

#### Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	1.7	D008	5.0	0.010	mg/l	1	12/07/10	12/07/10 DA	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA12502(2) Prep QC Batch: MP16339

RL = Reporting Limit

MCL = Maximum Contamination Level (40 CFR 261 6/96)



Client Sample ID: HA105\_0-4'
Lab Sample ID: M96257-3

Matrix: SO - Soil Method: SW846 8260B

**Project:** Former Energy International Parcel, MA

Date Sampled: 12/01/10
Date Received: 12/01/10
Percent Solids: 89.1

Percent Sonds: 89.1

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 R18631.D 1 12/07/10 GK n/a m/a MSR663

Run #2

Initial Weight Final Volume Methanol Aliquot

Run #1 13.2 g 10.0 ml 100 ul

Run #2

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	240	ug/kg	
71-43-2	Benzene	37.7	24	ug/kg	
108-86-1	Bromobenzene	ND	240	ug/kg	
74-97-5	Bromochloromethane	ND	240	ug/kg	
75-27-4	Bromodichloromethane	ND	97	ug/kg	
75-25-2	Bromoform	ND	97	ug/kg	
74-83-9	Bromomethane	ND	97	ug/kg	
78-93-3	2-Butanone (MEK)	ND	240	ug/kg	
104-51-8	n-Butylbenzene	ND	240	ug/kg	
135-98-8	sec-Butylbenzene	ND	240	ug/kg	
98-06-6	tert-Butylbenzene	ND	240	ug/kg	
75-15-0	Carbon disulfide	ND	240	ug/kg	
56-23-5	Carbon tetrachloride	ND	97	ug/kg	
108-90-7	Chlorobenzene	ND	97	ug/kg	
75-00-3	Chloroethane	ND	240	ug/kg	
67-66-3	Chloroform	ND	97	ug/kg	
74-87-3	Chloromethane	ND	240	ug/kg	
95-49-8	o-Chlorotoluene	ND	240	ug/kg	
106-43-4	p-Chlorotoluene	ND	240	ug/kg	
108-20-3	Di-Isopropyl ether	ND	97	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	240	ug/kg	
124-48-1	Dibromochloromethane	ND	97	ug/kg	
106-93-4	1,2-Dibromoethane	ND	97	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	97	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	97	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	97	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	97	ug/kg	
75-34-3	1,1-Dichloroethane	ND	97	ug/kg	
107-06-2	1,2-Dichloroethane	ND	97	ug/kg	
75-35-4	1,1-Dichloroethene	ND	97	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	97	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	97	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound

32



 Client Sample ID:
 HA105\_0-4'

 Lab Sample ID:
 M96257-3
 Date Sampled:
 12/01/10

 Matrix:
 SO - Soil
 Date Received:
 12/01/10

 Method:
 SW846 8260B
 Percent Solids:
 89.1

**Project:** Former Energy International Parcel, MA

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	97	ug/kg	
142-28-9	1,3-Dichloropropane	ND	240	ug/kg	
594-20-7	2,2-Dichloropropane	ND	240	ug/kg	
563-58-6	1,1-Dichloropropene	ND	240	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	97	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	97	ug/kg	
123-91-1	1,4-Dioxane	ND	1200	ug/kg	
60-29-7	Ethyl Ether	ND	240	ug/kg	
100-41-4	Ethylbenzene	ND	97	ug/kg	
87-68-3	Hexachlorobutadiene	ND	240	ug/kg	
591-78-6	2-Hexanone	ND	240	ug/kg	
98-82-8	Isopropylbenzene	ND	240	ug/kg	
99-87-6	p-Isopropyltoluene	ND	240	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	97	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	240	ug/kg	
74-95-3	Methylene bromide	ND	240	ug/kg	
75-09-2	Methylene chloride	ND	97	ug/kg	
91-20-3	Naphthalene	ND	240	ug/kg	
103-65-1	n-Propylbenzene	ND	240	ug/kg	
100-42-5	Styrene	ND	240	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	240	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	97	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	240	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	97	ug/kg	
127-18-4	Tetrachloroethene	ND	97	ug/kg	
109-99-9	Tetrahydrofuran	ND	490	ug/kg	
108-88-3	Toluene	ND	240	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	240	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	240	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	97	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	97	ug/kg	
79-01-6	Trichloroethene	ND	97	ug/kg	
75-69-4	Trichlorofluoromethane	ND	97	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	240	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	240	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	240	ug/kg	
75-01-4	Vinyl chloride	ND	97	ug/kg	
	m,p-Xylene	ND	97	ug/kg	
95-47-6	o-Xylene	ND	97	ug/kg	
1330-20-7	Xylene (total)	ND	97	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



L

Client Sample ID: HA105\_0-4'

 Lab Sample ID:
 M96257-3
 Date Sampled:
 12/01/10

 Matrix:
 SO - Soil
 Date Received:
 12/01/10

 Method:
 SW846 8260B
 Percent Solids:
 89.1

**Project:** Former Energy International Parcel, MA

#### **VOA MCP List**

CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	112%		70-130%
2037-26-5	Toluene-D8	113%		70-130%
460-00-4	4-Bromofluorobenzene	105%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



4.

By

PR

Client Sample ID: HA105\_0-4'
Lab Sample ID: M96257-3
Matrix: SO - Soil

File ID

S19965.D

**Method:** SW846 8270C SW846 3510C

**Project:** Former Energy International Parcel, MA

DF

1

Analyzed

12/13/10

Date Sampled: 12/01/10
Date Received: 12/01/10
Percent Solids: 89.1

12/06/10

Prep Date Prep Batch Analytical Batch

MSS826

OP23538

Run #1 Run #2

Initial Weight Final Volume

Run #1 20.2 g 1.0 ml

Run #2

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	560	ug/kg	
95-57-8	2-Chlorophenol	ND	280	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	560	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	560	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	560	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1100	ug/kg	
95-48-7	2-Methylphenol	ND	560	ug/kg	
	3&4-Methylphenol	ND	560	ug/kg	
88-75-5	2-Nitrophenol	ND	560	ug/kg	
100-02-7	4-Nitrophenol	ND	1100	ug/kg	
87-86-5	Pentachlorophenol	ND	560	ug/kg	
108-95-2	Phenol	ND	280	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	560	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	560	ug/kg	
83-32-9	Acenaphthene	ND	280	ug/kg	
208-96-8	Acenaphthylene	ND	280	ug/kg	
98-86-2	Acetophenone	ND	560	ug/kg	
62-53-3	Aniline	ND	560	ug/kg	
120-12-7	Anthracene	683	280	ug/kg	
56-55-3	Benzo(a)anthracene	1320	280	ug/kg	
50-32-8	Benzo(a)pyrene	1070	280	ug/kg	
205-99-2	Benzo(b)fluoranthene	1040	280	ug/kg	
191-24-2	Benzo(g,h,i)perylene	967	280	ug/kg	
207-08-9	Benzo(k)fluoranthene	921	280	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	280	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	280	ug/kg	
91-58-7	2-Chloronaphthalene	ND	280	ug/kg	
106-47-8	4-Chloroaniline	ND	560	ug/kg	
218-01-9	Chrysene	1380	280	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	280	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	280	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	280	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



**Date Sampled:** 12/01/10

**Date Received:** 12/01/10

Percent Solids: 89.1

Client Sample ID: HA105\_0-4' Lab Sample ID: M96257-3

Matrix: SO - Soil

**Method:** SW846 8270C SW846 3510C

**Project:** Former Energy International Parcel, MA

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units Q
95-50-1	1,2-Dichlorobenzene	ND	280	ug/kg
122-66-7	1,2-Diphenylhydrazine	ND	280	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	280	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	280	ug/kg
121-14-2	2,4-Dinitrotoluene	ND	560	ug/kg
606-20-2	2,6-Dinitrotoluene	ND	560	ug/kg
91-94-1	3,3'-Dichlorobenzidine	ND	280	ug/kg
53-70-3	Dibenzo(a,h)anthracene	350	280	ug/kg
132-64-9	Dibenzofuran	ND	280	ug/kg
84-74-2	Di-n-butyl phthalate	ND	280	ug/kg
117-84-0	Di-n-octyl phthalate	ND	280	ug/kg
84-66-2	Diethyl phthalate	ND	280	ug/kg
131-11-3	Dimethyl phthalate	ND	280	ug/kg
117-81-7	bis(2-Ethylhexyl)phthalate	ND	280	ug/kg
206-44-0	Fluoranthene	2280	280	ug/kg
86-73-7	Fluorene	281	280	ug/kg
118-74-1	Hexachlorobenzene	ND	280	ug/kg
87-68-3	Hexachlorobutadiene	ND	280	ug/kg
77-47-4	Hexachlorocyclopentadiene	ND	560	ug/kg
67-72-1	Hexachloroethane	ND	280	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	937	280	ug/kg
78-59-1	Isophorone	ND	280	ug/kg
91-57-6	2-Methylnaphthalene	ND	280	ug/kg
91-20-3	Naphthalene	344	280	ug/kg
98-95-3	Nitrobenzene	ND	280	ug/kg
621-64-7	N-Nitroso-di-n-propylamine	ND	280	ug/kg
86-30-6	N-Nitrosodiphenylamine	ND	280	ug/kg
85-01-8	Phenanthrene	2070	280	ug/kg
129-00-0	Pyrene	2260	280	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	280	ug/kg
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	67%		30-130%
4165-62-2	Phenol-d5	66%		30-130%
118-79-6	2,4,6-Tribromophenol	85%		30-130%
4165-60-0	Nitrobenzene-d5	65%		30-130%
321-60-8	2-Fluorobiphenyl	77%		30-130%
1718-51-0	Terphenyl-d14	81%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound

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#### Page 1 of 1

## **Report of Analysis**

Client Sample ID: HA105\_0-4' Lab Sample ID: M96257-3

Matrix: SO - Soil Method: MADEP VPH REV 1.1

**Project:** Former Energy International Parcel, MA

**Date Sampled:** 12/01/10 **Date Received:** 12/01/10 Percent Solids: 89.1

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** GBH929 Run #1 a BH17826.D 1 12/07/10 WS n/a n/a

Run #2

**Initial Weight Final Volume Methanol Aliquot** Run #1 11.0 ml 100 ul 13.2 g

Run #2

#### **Volatile TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C5- C8 Aliphatics (Unadj.) C9- C12 Aliphatics (Unadj.) C9- C10 Aromatics (Unadj.) C5- C8 Aliphatics C9- C12 Aliphatics	8850 17100 17300 8770 ND	5300 5300 5300 5300 5300	ug/kg ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limit	s
615-59-8 615-59-8	2,5-Dibromotoluene 2,5-Dibromotoluene	122% 117%		70-13 70-13	

(a) Soil to methanol ratio greater than 1.25 to 1.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



#### Page 1 of 1

## **Report of Analysis**

Client Sample ID: HA105\_0-4' Lab Sample ID: M96257-3

Matrix: SO - Soil
Method: MADEP EPH REV 1.1 SW846 3545

**Project:** Former Energy International Parcel, MA

Date Sampled: 12/01/10
Date Received: 12/01/10
Percent Solids: 89.1

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BI2735.D 1 12/14/10 JD 12/10/10 OP23590 GBI102

Run #2

Initial Weight Final Volume

Run #1 11.7 g 2.0 ml

Run #2

#### **Extractable TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C11-C22 Aromatics (Unadj.) C9-C18 Aliphatics C19-C36 Aliphatics C11-C22 Aromatics	158000 16700 88200 129000	19000 9600 9600 19000	ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	ts
84-15-1	o-Terphenyl	120%		40-14	
321-60-8	2-Fluorobiphenyl	80%		40-14	10%
580-13-2	2-Bromonaphthalene	74%		40-14	10%
3386-33-2	1-Chlorooctadecane	41%		40-14	10%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



C

 Client Sample ID:
 HA105\_0-4'

 Lab Sample ID:
 M96257-3

 Date Sampled:
 12/01/10

 Matrix:
 SO - Soil

 Date Received:
 12/01/10

 Percent Solids:
 89.1

**Project:** Former Energy International Parcel, MA

#### **Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	0.88	0.84	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Arsenic	8.4	0.84	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Barium	81.5	4.2	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Beryllium	0.41	0.34	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Cadmium	0.48	0.34	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Chromium	13.9	0.84	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Lead	190	0.84	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Mercury	1.4	0.072	mg/kg	2	12/03/10	12/03/10 PY	SW846 7471A <sup>2</sup>	SW846 7471A <sup>4</sup>
Nickel	17.3	3.4	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Selenium	< 0.84	0.84	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Silver	< 0.42	0.42	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Thallium	< 0.84	0.84	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Vanadium	20.8	0.84	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Zinc	182	1.7	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>

(1) Instrument QC Batch: MA12490(2) Instrument QC Batch: MA12492(3) Prep QC Batch: MP16330(4) Prep QC Batch: MP16331

 Client Sample ID:
 HA105\_0-4'

 Lab Sample ID:
 M96257-3

 Date Sampled:
 12/01/10

 Matrix:
 SO - Soil

 Date Received:
 12/01/10

 Percent Solids:
 89.1

**Project:** Former Energy International Parcel, MA

#### **General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	8.0			1	12/03/10	MA	SW846 CHAP7
Cyanide Reactivity	< 1.7	1.7	mg/kg	1	12/08/10	BF	SW846 CHAP7
Ignitability (Flashpoint)	> 230		Deg. F	1	12/08/10	BF	SW846 1020
Redox Potential Vs H2 <sup>a</sup>	364		mv	1	12/03/10	MC	ASTM D1498-76M
Solids, Percent	89.1		%	1	12/03/10	HS	SM21 2540 B MOD.
Sulfide Reactivity	< 56	56	mg/kg	1	12/08/10	BF	SW846 CHAP7

(a) Analysis requested after recommended holding time.

Matrix:

## **Report of Analysis**

Page 1 of 1

Client Sample ID: HA105\_0-4' Lab Sample ID: M96257-3A

 Date Sampled:
 12/01/10

 Date Received:
 12/01/10

 Percent Solids:
 89.1

**Project:** Former Energy International Parcel, MA

#### Metals Analysis, TCLP Leachate SW846 1311

SO - Soil

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	<b>Prep Method</b>
Lead	0.36	D008	5.0	0.010	mg/l	1	12/07/10	12/07/10 DA	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA12502

(2) Prep QC Batch: MP16339

RL = Reporting Limit

MCL = Maximum Contamination Level (40 CFR 261 6/96)



L

By

GK

n/a

Client Sample ID: HA105\_4-8' Lab Sample ID: M96257-4

File ID

R18628.D

Matrix: SO - Soil Method: SW846 8260B

**Project:** Former Energy International Parcel, MA

DF

1

Date Sampled: 12/01/10
Date Received: 12/01/10
Percent Solids: 84.9

Prep Date Prep Batch Analytical Batch

n/a

MSR663

Run #1 Run #2

Initial Weight Final Volume Methanol Aliquot

Analyzed

12/07/10

Run #1 11.9 g 10.0 ml 100 ul

Run #2

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	290	ug/kg	
71-43-2	Benzene	ND	29	ug/kg	
108-86-1	Bromobenzene	ND	290	ug/kg	
74-97-5	Bromochloromethane	ND	290	ug/kg	
75-27-4	Bromodichloromethane	ND	120	ug/kg	
75-25-2	Bromoform	ND	120	ug/kg	
74-83-9	Bromomethane	ND	120	ug/kg	
78-93-3	2-Butanone (MEK)	ND	290	ug/kg	
104-51-8	n-Butylbenzene	ND	290	ug/kg	
135-98-8	sec-Butylbenzene	ND	290	ug/kg	
98-06-6	tert-Butylbenzene	ND	290	ug/kg	
75-15-0	Carbon disulfide	ND	290	ug/kg	
56-23-5	Carbon tetrachloride	ND	120	ug/kg	
108-90-7	Chlorobenzene	ND	120	ug/kg	
75-00-3	Chloroethane	ND	290	ug/kg	
67-66-3	Chloroform	ND	120	ug/kg	
74-87-3	Chloromethane	ND	290	ug/kg	
95-49-8	o-Chlorotoluene	ND	290	ug/kg	
106-43-4	p-Chlorotoluene	ND	290	ug/kg	
108-20-3	Di-Isopropyl ether	ND	120	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	290	ug/kg	
124-48-1	Dibromochloromethane	ND	120	ug/kg	
106-93-4	1,2-Dibromoethane	ND	120	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	120	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	120	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	120	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	120	ug/kg	
75-34-3	1,1-Dichloroethane	ND	120	ug/kg	
107-06-2	1,2-Dichloroethane	ND	120	ug/kg	
75-35-4	1,1-Dichloroethene	ND	120	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	120	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	120	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



M96257





Client Sample ID: HA105\_4-8' Lab Sample ID: M96257-4

Matrix: SO - Soil Method: SW846 8260B

**Project:** Former Energy International Parcel, MA

# Date Sampled: 12/01/10 Date Received: 12/01/10 Percent Solids: 84.9

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	120	ug/kg	
142-28-9	1,3-Dichloropropane	ND	290	ug/kg	
594-20-7	2,2-Dichloropropane	ND	290	ug/kg	
563-58-6	1,1-Dichloropropene	ND	290	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	120	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	120	ug/kg	
123-91-1	1,4-Dioxane	ND	1500	ug/kg	
60-29-7	Ethyl Ether	ND	290	ug/kg	
100-41-4	Ethylbenzene	ND	120	ug/kg	
87-68-3	Hexachlorobutadiene	ND	290	ug/kg	
591-78-6	2-Hexanone	ND	290	ug/kg	
98-82-8	Isopropylbenzene	ND	290	ug/kg	
99-87-6	p-Isopropyltoluene	ND	290	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	120	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	290	ug/kg	
74-95-3	Methylene bromide	ND	290	ug/kg	
75-09-2	Methylene chloride	ND	120	ug/kg	
91-20-3	Naphthalene	ND	290	ug/kg	
103-65-1	n-Propylbenzene	ND	290	ug/kg	
100-42-5	Styrene	ND	290	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	290	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	120	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	290	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	120	ug/kg	
127-18-4	Tetrachloroethene	ND	120	ug/kg	
109-99-9	Tetrahydrofuran	ND	580	ug/kg	
108-88-3	Toluene	ND	290	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	290	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	290	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	120	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	120	ug/kg	
79-01-6	Trichloroethene	ND	120	ug/kg	
75-69-4	Trichlorofluoromethane	ND	120	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	290	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	290	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	290	ug/kg	
75-01-4	Vinyl chloride	ND	120	ug/kg	
	m,p-Xylene	ND	120	ug/kg	
95-47-6	o-Xylene	ND	120	ug/kg	
1330-20-7	Xylene (total)	ND	120	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

 $N = \ Indicates \ presumptive \ evidence \ of \ a \ compound$ 



Page 3 of 3

Client Sample ID: HA105\_4-8'

 Lab Sample ID:
 M96257-4
 Date Sampled:
 12/01/10

 Matrix:
 SO - Soil
 Date Received:
 12/01/10

 Method:
 SW846 8260B
 Percent Solids:
 84.9

**Project:** Former Energy International Parcel, MA

#### **VOA MCP List**

CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	114%		70-130%
2037-26-5	Toluene-D8	112%		70-130%
460-00-4	4-Bromofluorobenzene	111%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$ 

N = Indicates presumptive evidence of a compound



63

Client Sample ID: HA105\_4-8' Lab Sample ID: M96257-4

SO - Soil Method: SW846 8270C SW846 3510C

**Project:** Former Energy International Parcel, MA **Date Sampled:** 12/01/10 **Date Received:** 12/01/10

**Percent Solids:** 84.9

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 S19966.D 1 12/13/10 PR 12/06/10 OP23538 MSS826

Run #2

Matrix:

**Final Volume Initial Weight** 

Run #1 1.0 ml 20.2 g

Run #2

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	580	ug/kg	
95-57-8	2-Chlorophenol	ND	290	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	580	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	580	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	580	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	ug/kg	
95-48-7	2-Methylphenol	ND	580	ug/kg	
	3&4-Methylphenol	ND	580	ug/kg	
88-75-5	2-Nitrophenol	ND	580	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	ug/kg	
87-86-5	Pentachlorophenol	ND	580	ug/kg	
108-95-2	Phenol	ND	290	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	580	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	580	ug/kg	
83-32-9	Acenaphthene	ND	290	ug/kg	
208-96-8	Acenaphthylene	ND	290	ug/kg	
98-86-2	Acetophenone	ND	580	ug/kg	
62-53-3	Aniline	ND	580	ug/kg	
120-12-7	Anthracene	ND	290	ug/kg	
56-55-3	Benzo(a)anthracene	ND	290	ug/kg	
50-32-8	Benzo(a)pyrene	ND	290	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	290	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	290	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	290	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	290	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	290	ug/kg	
91-58-7	2-Chloronaphthalene	ND	290	ug/kg	
106-47-8	4-Chloroaniline	ND	580	ug/kg	
218-01-9	Chrysene	ND	290	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	290	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	290	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	290	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



**Date Sampled:** 12/01/10

**Date Received:** 12/01/10

Percent Solids: 84.9

Client Sample ID: HA105\_4-8' Lab Sample ID: M96257-4

Matrix: SO - Soil Method: SW846 8270C SW846 3510C

**Project:** 

Former Energy International Parcel, MA

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units Q
95-50-1	1,2-Dichlorobenzene	ND	290	ug/kg
122-66-7	1,2-Diphenylhydrazine	ND	290	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	290	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	290	ug/kg
121-14-2	2,4-Dinitrotoluene	ND	580	ug/kg
606-20-2	2,6-Dinitrotoluene	ND	580	ug/kg
91-94-1	3,3'-Dichlorobenzidine	ND	290	ug/kg
53-70-3	Dibenzo(a,h)anthracene	ND	290	ug/kg
132-64-9	Dibenzofuran	ND	290	ug/kg
84-74-2	Di-n-butyl phthalate	ND	290	ug/kg
117-84-0	Di-n-octyl phthalate	ND	290	ug/kg
84-66-2	Diethyl phthalate	ND	290	ug/kg
131-11-3	Dimethyl phthalate	ND	290	ug/kg
117-81-7	bis(2-Ethylhexyl)phthalate	ND	290	ug/kg
206-44-0	Fluoranthene	514	290	ug/kg
86-73-7	Fluorene	ND	290	ug/kg
118-74-1	Hexachlorobenzene	ND	290	ug/kg
87-68-3	Hexachlorobutadiene	ND	290	ug/kg
77-47-4	Hexachlorocyclopentadiene	ND	580	ug/kg
67-72-1	Hexachloroethane	ND	290	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	ND	290	ug/kg
78-59-1	Isophorone	ND	290	ug/kg
91-57-6	2-Methylnaphthalene	ND	290	ug/kg
91-20-3	Naphthalene	ND	290	ug/kg
98-95-3	Nitrobenzene	ND	290	ug/kg
621-64-7	N-Nitroso-di-n-propylamine	ND	290	ug/kg
86-30-6	N-Nitrosodiphenylamine	ND	290	ug/kg
85-01-8	Phenanthrene	564	290	ug/kg
129-00-0	Pyrene	509	290	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	290	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	59%		30-130%
4165-62-2	Phenol-d5	62%		30-130%
118-79-6	2,4,6-Tribromophenol	68%		30-130%
4165-60-0	Nitrobenzene-d5	64%		30-130%
321-60-8	2-Fluorobiphenyl	73%		30-130%
1718-51-0	Terphenyl-d14	84%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$ N = Indicates presumptive evidence of a compound



#### Page 1 of 1

## **Report of Analysis**

**Date Sampled:** 12/01/10

Client Sample ID: HA105\_4-8' Lab Sample ID: M96257-4

Method:

**Project:** Former Energy International Parcel, MA

Matrix: SO - Soil **Date Received:** 12/01/10 MADEP VPH REV 1.1 **Percent Solids:** 84.9

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** GBH929 Run #1 BH17827.D 1 12/07/10 WS n/a n/a

Run #2

**Initial Weight Final Volume Methanol Aliquot** Run #1 11.9 g 11.0 ml 100 ul

Run #2

#### **Volatile TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C5- C8 Aliphatics (Unadj.) C9- C12 Aliphatics (Unadj.) C9- C10 Aromatics (Unadj.) C5- C8 Aliphatics C9- C12 Aliphatics	ND 8370 8360 ND ND	6300 6300 6300 6300 6300	ug/kg ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	ts
615-59-8	2,5-Dibromotoluene	119%		70-13	
615-59-8	2,5-Dibromotoluene	114%		70-13	30%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



Page 1 of 1

Client Sample ID: HA105\_4-8' Lab Sample ID: M96257-4

Matrix: SO - Soil Method: MADEP EPH REV 1.1 SW846 3545

**Project:** Former Energy International Parcel, MA **Date Sampled:** 12/01/10 **Date Received:** 12/01/10 **Percent Solids:** 84.9

File ID DF **Prep Date Analytical Batch** Analyzed By **Prep Batch GBI104** Run #1 BI2789.D 1 12/16/10 JD 12/10/10 OP23590

Run #2

**Initial Weight Final Volume** Run #1 2.0 ml 11.1 g

Run #2

#### **Extractable TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C11-C22 Aromatics (Unadj.) C9-C18 Aliphatics C19-C36 Aliphatics C11-C22 Aromatics	ND ND 21800 ND	21000 11000 11000 21000	ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	ts
84-15-1 321-60-8	o-Terphenyl 2-Fluorobiphenyl	62% 71%		40-14 40-14	
580-13-2 3386-33-2	2-Bromonaphthalene 1-Chlorooctadecane	43% 57%		40-14 40-14	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



Client Sample ID: HA105\_4-8' Lab Sample ID: M96257-4

Date Sampled: 12/01/10 Date Received: 12/01/10 Percent Solids: 84.9

**Project:** Former Energy International Parcel, MA

SO - Soil

#### **Metals Analysis**

Matrix:

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	< 0.90	0.90	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Arsenic	7.2	0.90	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Barium	180	4.5	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Beryllium	0.43	0.36	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Cadmium	< 0.36	0.36	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Chromium	10.3	0.90	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Lead	245	0.90	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Mercury	0.87	0.036	mg/kg	1	12/03/10	12/03/10 PY	SW846 7471A <sup>2</sup>	SW846 7471A <sup>4</sup>
Nickel	10.9	3.6	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Selenium	< 0.90	0.90	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Silver	< 0.45	0.45	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Thallium	< 0.90	0.90	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Vanadium	17.8	0.90	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Zinc	128	1.8	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>

(1) Instrument QC Batch: MA12490(2) Instrument QC Batch: MA12492(3) Prep QC Batch: MP16330(4) Prep QC Batch: MP16331

Page 1 of 1

Client Sample ID: HA105\_4-8'
Lab Sample ID: M96257-4
Matrix: SO - Soil

**Date Sampled:** 12/01/10 **Date Received:** 12/01/10 **Percent Solids:** 84.9

**Project:** Former Energy International Parcel, MA

#### **General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	7.7			1	12/03/10	MA	SW846 CHAP7
Cyanide Reactivity	< 1.8	1.8	mg/kg	1	12/08/10	BF	SW846 CHAP7
Ignitability (Flashpoint)	> 230		Deg. F	1	12/08/10	BF	SW846 1020
Redox Potential Vs H2 <sup>a</sup>	387		mv	1	12/03/10	MC	ASTM D1498-76M
Solids, Percent	84.9		%	1	12/03/10	HS	SM21 2540 B MOD.
Sulfide Reactivity	< 59	59	mg/kg	1	12/08/10	BF	SW846 CHAP7

(a) Analysis requested after recommended holding time.

Matrix:

## **Report of Analysis**

Page 1 of 1

Client Sample ID: HA105\_4-8' Lab Sample ID: M96257-4A

**Project:** Former Energy International Parcel, MA

#### Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	<b>Prep Method</b>
Lead	0.46	D008	5.0	0.010	mg/l	1	12/07/10	12/07/10 DA	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA12502

(2) Prep QC Batch: MP16339

RL = Reporting Limit

MCL = Maximum Contamination Level (40 CFR 261 6/96)



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Client Sample ID: HA104\_0-4' Lab Sample ID: M96257-5

 Matrix:
 SO - Soil

 Method:
 SW846 8260B

**Project:** Former Energy International Parcel, MA

Date Sampled: 12/01/10
Date Received: 12/01/10
Percent Solids: 90.6

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 R18630.D 1 12/07/10 GK n/a n/a MSR663

Run #2

Initial Weight Final Volume Methanol Aliquot

Run #1 13.2 g 10.0 ml 100 ul

Run #2

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	230	ug/kg	
71-43-2	Benzene	ND	23	ug/kg	
108-86-1	Bromobenzene	ND	230	ug/kg	
74-97-5	Bromochloromethane	ND	230	ug/kg	
75-27-4	Bromodichloromethane	ND	94	ug/kg	
75-25-2	Bromoform	ND	94	ug/kg	
74-83-9	Bromomethane	ND	94	ug/kg	
78-93-3	2-Butanone (MEK)	ND	230	ug/kg	
104-51-8	n-Butylbenzene	ND	230	ug/kg	
135-98-8	sec-Butylbenzene	ND	230	ug/kg	
98-06-6	tert-Butylbenzene	ND	230	ug/kg	
75-15-0	Carbon disulfide	ND	230	ug/kg	
56-23-5	Carbon tetrachloride	ND	94	ug/kg	
108-90-7	Chlorobenzene	ND	94	ug/kg	
75-00-3	Chloroethane	ND	230	ug/kg	
67-66-3	Chloroform	ND	94	ug/kg	
74-87-3	Chloromethane	ND	230	ug/kg	
95-49-8	o-Chlorotoluene	ND	230	ug/kg	
106-43-4	p-Chlorotoluene	ND	230	ug/kg	
108-20-3	Di-Isopropyl ether	ND	94	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	230	ug/kg	
124-48-1	Dibromochloromethane	ND	94	ug/kg	
106-93-4	1,2-Dibromoethane	ND	94	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	94	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	94	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	94	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	94	ug/kg	
75-34-3	1,1-Dichloroethane	ND	94	ug/kg	
107-06-2	1,2-Dichloroethane	ND	94	ug/kg	
75-35-4	1,1-Dichloroethene	ND	94	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	94	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	94	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N =Indicates presumptive evidence of a compound



Client Sample ID: HA104\_0-4' M96257-5

Lab Sample ID: **Date Sampled:** 12/01/10 Matrix: **Date Received:** 12/01/10 SO - Soil Method: SW846 8260B Percent Solids: 90.6 Former Energy International Parcel, MA

#### **VOA MCP List**

**Project:** 

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	94	ug/kg	
142-28-9	1,3-Dichloropropane	ND	230	ug/kg	
594-20-7	2,2-Dichloropropane	ND	230	ug/kg	
563-58-6	1,1-Dichloropropene	ND	230	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	94	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	94	ug/kg	
123-91-1	1,4-Dioxane	ND	1200	ug/kg	
60-29-7	Ethyl Ether	ND	230	ug/kg	
100-41-4	Ethylbenzene	ND	94	ug/kg	
87-68-3	Hexachlorobutadiene	ND	230	ug/kg	
591-78-6	2-Hexanone	ND	230	ug/kg	
98-82-8	Isopropylbenzene	ND	230	ug/kg	
99-87-6	p-Isopropyltoluene	ND	230	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	94	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	230	ug/kg	
74-95-3	Methylene bromide	ND	230	ug/kg	
75-09-2	Methylene chloride	ND	94	ug/kg	
91-20-3	Naphthalene	ND	230	ug/kg	
103-65-1	n-Propylbenzene	ND	230	ug/kg	
100-42-5	Styrene	ND	230	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	230	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	94	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	230	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	94	ug/kg	
127-18-4	Tetrachloroethene	ND	94	ug/kg	
109-99-9	Tetrahydrofuran	ND	470	ug/kg	
108-88-3	Toluene	ND	230	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	230	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	230	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	94	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	94	ug/kg	
79-01-6	Trichloroethene	ND	94	ug/kg	
75-69-4	Trichlorofluoromethane	ND	94	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	230	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	230	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	230	ug/kg	
75-01-4	Vinyl chloride	ND	94	ug/kg	
	m,p-Xylene	ND	94	ug/kg	
95-47-6	o-Xylene	ND	94	ug/kg	
1330-20-7	Xylene (total)	ND	94	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$ 

N = Indicates presumptive evidence of a compound



Client Sample ID: HA104\_0-4' Lab Sample ID: M96257-5

Matrix: SO - Soil Method: SW846 8260B **Project:** 

Former Energy International Parcel, MA

**Date Sampled:** 12/01/10 **Date Received:** 12/01/10 Percent Solids: 90.6

### **VOA MCP List**

CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		70-130%
2037-26-5	Toluene-D8	112%		70-130%
460-00-4	4-Bromofluorobenzene	112%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$ 



Client Sample ID: HA104\_0-4'
Lab Sample ID: M96257-5

 Matrix:
 SO - Soil

 Method:
 SW846 8270C
 SW846 3510C

**Project:** Former Energy International Parcel, MA

**Date Sampled:** 12/01/10 **Date Received:** 12/01/10 **Paragret Solids:** 00.6

Percent Solids: 90.6

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 S19967.D 1 12/13/10 PR 12/06/10 OP23538 MSS826

Run #2

Initial Weight Final Volume

Run #1 20.6 g 1.0 ml

Run #2

### **ABN MCP List**

CAS No.	Compound	Result	RL	Units Q
65-85-0	Benzoic acid	ND	540	ug/kg
95-57-8	2-Chlorophenol	ND	270	ug/kg
59-50-7	4-Chloro-3-methyl phenol	ND	540	ug/kg
120-83-2	2,4-Dichlorophenol	ND	540	ug/kg
105-67-9	2,4-Dimethylphenol	ND	540	ug/kg
51-28-5	2,4-Dinitrophenol	ND	1100	ug/kg
95-48-7	2-Methylphenol	ND	540	ug/kg
	3&4-Methylphenol	ND	540	ug/kg
88-75-5	2-Nitrophenol	ND	540	ug/kg
100-02-7	4-Nitrophenol	ND	1100	ug/kg
87-86-5	Pentachlorophenol	ND	540	ug/kg
108-95-2	Phenol	ND	270	ug/kg
95-95-4	2,4,5-Trichlorophenol	ND	540	ug/kg
88-06-2	2,4,6-Trichlorophenol	ND	540	ug/kg
83-32-9	Acenaphthene	ND	270	ug/kg
208-96-8	Acenaphthylene	ND	270	ug/kg
98-86-2	Acetophenone	ND	540	ug/kg
62-53-3	Aniline	ND	540	ug/kg
120-12-7	Anthracene	566	270	ug/kg
56-55-3	Benzo(a)anthracene	1110	270	ug/kg
50-32-8	Benzo(a)pyrene	1330	270	ug/kg
205-99-2	Benzo(b)fluoranthene	1430	270	ug/kg
191-24-2	Benzo(g,h,i)perylene	1370	270	ug/kg
207-08-9	Benzo(k)fluoranthene	1270	270	ug/kg
101-55-3	4-Bromophenyl phenyl ether	ND	270	ug/kg
85-68-7	Butyl benzyl phthalate	ND	270	ug/kg
91-58-7	2-Chloronaphthalene	ND	270	ug/kg
106-47-8	4-Chloroaniline	ND	540	ug/kg
218-01-9	Chrysene	1450	270	ug/kg
111-91-1	bis(2-Chloroethoxy)methane	ND	270	ug/kg
111-44-4	bis(2-Chloroethyl)ether	ND	270	ug/kg
108-60-1	bis(2-Chloroisopropyl)ether	ND	270	ug/kg

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



**Date Sampled:** 12/01/10

**Date Received:** 12/01/10

Percent Solids: 90.6

Client Sample ID: HA104\_0-4' Lab Sample ID: M96257-5

Matrix: SO - Soil Method: SW846 8270C SW846 3510C

**Project:** Former Energy International Parcel, MA

### **ABN MCP List**

CAS No.	Compound	Result	RL	Units Q
95-50-1	1,2-Dichlorobenzene	ND	270	ug/kg
122-66-7	1,2-Diphenylhydrazine	ND	270	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	270	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	270	ug/kg
121-14-2	2,4-Dinitrotoluene	ND	540	ug/kg
606-20-2	2,6-Dinitrotoluene	ND	540	ug/kg
91-94-1	3,3'-Dichlorobenzidine	ND	270	ug/kg
53-70-3	Dibenzo(a,h)anthracene	458	270	ug/kg
132-64-9	Dibenzofuran	ND	270	ug/kg
84-74-2	Di-n-butyl phthalate	ND	270	ug/kg
117-84-0	Di-n-octyl phthalate	ND	270	ug/kg
84-66-2	Diethyl phthalate	ND	270	ug/kg
131-11-3	Dimethyl phthalate	ND	270	ug/kg
117-81-7	bis(2-Ethylhexyl)phthalate	ND	270	ug/kg
206-44-0	Fluoranthene	1720	270	ug/kg
86-73-7	Fluorene	ND	270	ug/kg
118-74-1	Hexachlorobenzene	ND	270	ug/kg
87-68-3	Hexachlorobutadiene	ND	270	ug/kg
77-47-4	Hexachlorocyclopentadiene	ND	540	ug/kg
67-72-1	Hexachloroethane	ND	270	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	1310	270	ug/kg
78-59-1	Isophorone	ND	270	ug/kg
91-57-6	2-Methylnaphthalene	ND	270	ug/kg
91-20-3	Naphthalene	ND	270	ug/kg
98-95-3	Nitrobenzene	ND	270	ug/kg
621-64-7	N-Nitroso-di-n-propylamine	ND	270	ug/kg
86-30-6	N-Nitrosodiphenylamine	ND	270	ug/kg
85-01-8	Phenanthrene	1070	270	ug/kg
129-00-0	Pyrene	1890	270	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	270	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	62%		30-130%
4165-62-2	Phenol-d5	61%		30-130%
118-79-6	2,4,6-Tribromophenol	74%		30-130%
4165-60-0	Nitrobenzene-d5	62%		30-130%
321-60-8	2-Fluorobiphenyl	72%		30-130%
1718-51-0	Terphenyl-d14	75%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$ N = Indicates presumptive evidence of a compound



### Page 1 of 1

# **Report of Analysis**

Client Sample ID: HA104\_0-4' Lab Sample ID: M96257-5

Matrix: SO - Soil Method: MADEP VPH REV 1.1

**Project:** 

Former Energy International Parcel, MA

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** GBH929 Run #1 a BH17828.D 1 12/08/10 WS n/an/a

**Date Sampled:** 12/01/10

**Date Received:** 12/01/10

Percent Solids: 90.6

Run #2

**Initial Weight Final Volume Methanol Aliquot** Run #1 11.0 ml 100 ul 13.2 g

Run #2

### **Volatile TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C5- C8 Aliphatics (Unadj.) C9- C12 Aliphatics (Unadj.) C9- C10 Aromatics (Unadj.) C5- C8 Aliphatics C9- C12 Aliphatics	ND ND ND ND ND	5100 5100 5100 5100 5100	ug/kg ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	ts
615-59-8 615-59-8	2,5-Dibromotoluene 2,5-Dibromotoluene	122% 116%		70-13 70-13	

(a) Soil to methanol ratio greater than 1.25 to 1.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



### Page 1 of 1

# **Report of Analysis**

Client Sample ID: HA104\_0-4' Lab Sample ID: M96257-5

Matrix: SO - Soil
Method: MADEP EPH REV 1.1 SW846 3545

Project: Former Energy International Parcel, MA

**Date Sampled:** 12/01/10 **Date Received:** 12/01/10

Percent Solids: 90.6

	File ID	DF	Analyzed	$\mathbf{B}\mathbf{y}$	Prep Date	Prep Batch	<b>Analytical Batch</b>
Run #1	BI2748.D	1	12/14/10	JD	12/10/10	OP23590	GBI102
Run #2							

Run #1 11.1 g 2.0 ml
Run #2

### **Extractable TPHC Ranges**

CAS No.	Compound	Result	RL	Units Q
	C11-C22 Aromatics (Unadj.) C9-C18 Aliphatics C19-C36 Aliphatics C11-C22 Aromatics	92500 ND 58900 69900	20000 9900 9900 20000	ug/kg ug/kg ug/kg ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	87%		40-140%
321-60-8 580-13-2	2-Fluorobiphenyl 2-Bromonaphthalene	95% 82%		40-140% 40-140%
3386-33-2	1-Chlorooctadecane	41%		40-140%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



C

 Client Sample ID:
 HA104\_0-4'

 Lab Sample ID:
 M96257-5
 Date Sampled:
 12/01/10

 Matrix:
 SO - Soil
 Date Received:
 12/01/10

 Percent Solids:
 90.6

**Project:** Former Energy International Parcel, MA

### **Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	<b>Prep Method</b>
Antimony	< 0.84	0.84	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Arsenic	7.9	0.84	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Barium	91.4	4.2	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Beryllium	0.35	0.34	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Cadmium	< 0.34	0.34	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Chromium	13.1	0.84	mg/kg	1	12/02/10	12/02/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Lead	268	0.84	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Mercury	0.68	0.035	mg/kg	1	12/03/10	12/03/10 PY	SW846 7471A <sup>2</sup>	SW846 7471A <sup>4</sup>
Nickel	12.4	3.4	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Selenium	< 0.84	0.84	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Silver	< 0.42	0.42	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Thallium	< 0.84	0.84	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Vanadium	22.5	0.84	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Zinc	111	1.7	mg/kg	1	12/02/10	12/02/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>

(1) Instrument QC Batch: MA12490(2) Instrument QC Batch: MA12492(3) Prep QC Batch: MP16330(4) Prep QC Batch: MP16331

Page 1 of 1

Client Sample ID: HA104\_0-4'
Lab Sample ID: M96257-5
Matrix: SO - Soil

**Date Sampled:** 12/01/10 **Date Received:** 12/01/10 **Percent Solids:** 90.6

**Project:** Former Energy International Parcel, MA

### **General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	7.9			1	12/03/10	MA	SW846 CHAP7
Cyanide Reactivity	< 1.7	1.7	mg/kg	1	12/08/10	BF	SW846 CHAP7
Ignitability (Flashpoint)	> 230		Deg. F	1	12/08/10	BF	SW846 1020
Redox Potential Vs H2 <sup>a</sup>	407		mv	1	12/03/10	MC	ASTM D1498-76M
Solids, Percent	90.6		%	1	12/03/10	HS	SM21 2540 B MOD.
Sulfide Reactivity	< 55	55	mg/kg	1	12/08/10	BF	SW846 CHAP7

(a) Analysis requested after recommended holding time.

Matrix:

# **Report of Analysis**

Page 1 of 1

Client Sample ID: HA104\_0-4' Lab Sample ID:

M96257-5A **Date Sampled:** 12/01/10 SO - Soil **Date Received:** 12/01/10 **Percent Solids:** 90.6

Project: Former Energy International Parcel, MA

### Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	<b>Prep Method</b>
Lead	0.059	D008	5.0	0.010	mg/l	1	12/07/10	12/07/10 DA	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA12502

(2) Prep QC Batch: MP16339

RL = Reporting Limit

MCL = Maximum Contamination Level (40 CFR 261 6/96)



Client Sample ID: HA104\_8-13.2'

 Lab Sample ID:
 M96257-6
 Date Sampled:
 12/01/10

 Matrix:
 SO - Soil
 Date Received:
 12/01/10

 Method:
 SW846 8260B
 Percent Solids:
 80.1

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 R18682.D 1 12/09/10 GK n/a n/a MSR666

Run #2

Initial Weight Final Volume Methanol Aliquot

Run #1 10.5 g 10.0 ml 100 ul

Run #2

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	360	ug/kg	
71-43-2	Benzene	ND	36	ug/kg	
108-86-1	Bromobenzene	ND	360	ug/kg	
74-97-5	Bromochloromethane	ND	360	ug/kg	
75-27-4	Bromodichloromethane	ND	140	ug/kg	
75-25-2	Bromoform	ND	140	ug/kg	
74-83-9	Bromomethane	ND	140	ug/kg	
78-93-3	2-Butanone (MEK)	ND	360	ug/kg	
104-51-8	n-Butylbenzene	ND	360	ug/kg	
135-98-8	sec-Butylbenzene	ND	360	ug/kg	
98-06-6	tert-Butylbenzene	ND	360	ug/kg	
75-15-0	Carbon disulfide	ND	360	ug/kg	
56-23-5	Carbon tetrachloride	ND	140	ug/kg	
108-90-7	Chlorobenzene	ND	140	ug/kg	
75-00-3	Chloroethane	ND	360	ug/kg	
67-66-3	Chloroform	ND	140	ug/kg	
74-87-3	Chloromethane	ND	360	ug/kg	
95-49-8	o-Chlorotoluene	ND	360	ug/kg	
106-43-4	p-Chlorotoluene	ND	360	ug/kg	
108-20-3	Di-Isopropyl ether	ND	140	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	360	ug/kg	
124-48-1	Dibromochloromethane	ND	140	ug/kg	
106-93-4	1,2-Dibromoethane	ND	140	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	140	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	140	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	140	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	140	ug/kg	
75-34-3	1,1-Dichloroethane	ND	140	ug/kg	
107-06-2	1,2-Dichloroethane	ND	140	ug/kg	
75-35-4	1,1-Dichloroethene	ND	140	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	140	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	140	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



 Lab Sample ID:
 M96257-6
 Date Sampled:
 12/01/10

 Matrix:
 SO - Soil
 Date Received:
 12/01/10

 Method:
 SW846 8260B
 Percent Solids:
 80.1

**Project:** Former Energy International Parcel, MA

### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	140	ug/kg	
142-28-9	1,3-Dichloropropane	ND	360	ug/kg	
594-20-7	2,2-Dichloropropane	ND	360	ug/kg	
563-58-6	1,1-Dichloropropene	ND	360	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	140	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	140	ug/kg	
123-91-1	1,4-Dioxane	ND	1800	ug/kg	
60-29-7	Ethyl Ether	ND	360	ug/kg	
100-41-4	Ethylbenzene	ND	140	ug/kg	
87-68-3	Hexachlorobutadiene	ND	360	ug/kg	
591-78-6	2-Hexanone	ND	360	ug/kg	
98-82-8	Isopropylbenzene	ND	360	ug/kg	
99-87-6	p-Isopropyltoluene	ND	360	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	140	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	360	ug/kg	
74-95-3	Methylene bromide	ND	360	ug/kg	
75-09-2	Methylene chloride	ND	140	ug/kg	
91-20-3	Naphthalene	2570	360	ug/kg	
103-65-1	n-Propylbenzene	ND	360	ug/kg	
100-42-5	Styrene	ND	360	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	360	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	140	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	360	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	140	ug/kg	
127-18-4	Tetrachloroethene	ND	140	ug/kg	
109-99-9	Tetrahydrofuran	ND	720	ug/kg	
108-88-3	Toluene	ND	360	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	360	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	360	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	140	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	140	ug/kg	
79-01-6	Trichloroethene	ND	140	ug/kg	
75-69-4	Trichlorofluoromethane	ND	140	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	360	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	360	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	360	ug/kg	
75-01-4	Vinyl chloride	ND	140	ug/kg	
	m,p-Xylene	ND	140	ug/kg	
95-47-6	o-Xylene	ND	140	ug/kg	
1330-20-7	Xylene (total)	ND	140	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

 $N = \ Indicates \ presumptive \ evidence \ of \ a \ compound$ 



Page 3 of 3

Client Sample ID: HA104\_8-13.2'

 Lab Sample ID:
 M96257-6
 Date Sampled:
 12/01/10

 Matrix:
 SO - Soil
 Date Received:
 12/01/10

 Method:
 SW846 8260B
 Percent Solids:
 80.1

**Project:** Former Energy International Parcel, MA

### **VOA MCP List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		70-130%
2037-26-5	Toluene-D8	111%		70-130%
460-00-4	4-Bromofluorobenzene	113%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ \, \text{Indicates analyte found in associated method blank}$ 

N = Indicates presumptive evidence of a compound



C

Client Sample ID: HA104\_8-13.2'

Lab Sample ID: M96257-6 Matrix: SO - Soil

Method: SW846 8270C SW846 3510C

**Project:** Former Energy International Parcel, MA **Date Sampled:** 12/01/10 **Date Received:** 12/01/10

Percent Solids: 80.1

File ID DF **Prep Date Analytical Batch** Analyzed By **Prep Batch** Run #1 S19968.D 1 12/13/10 PR 12/06/10 OP23538 MSS826 Run #2

**Final Volume Initial Weight** Run #1 1.0 ml 20.1 g

Run #2

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	620	ug/kg	
95-57-8	2-Chlorophenol	ND	310	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	620	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	620	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	620	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	ug/kg	
95-48-7	2-Methylphenol	ND	620	ug/kg	
	3&4-Methylphenol	ND	620	ug/kg	
88-75-5	2-Nitrophenol	ND	620	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	ug/kg	
87-86-5	Pentachlorophenol	ND	620	ug/kg	
108-95-2	Phenol	ND	310	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	620	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	620	ug/kg	
83-32-9	Acenaphthene	992	310	ug/kg	
208-96-8	Acenaphthylene	ND	310	ug/kg	
98-86-2	Acetophenone	ND	620	ug/kg	
62-53-3	Aniline	ND	620	ug/kg	
120-12-7	Anthracene	2120	310	ug/kg	
56-55-3	Benzo(a)anthracene	2620	310	ug/kg	
50-32-8	Benzo(a)pyrene	1900	310	ug/kg	
205-99-2	Benzo(b)fluoranthene	1370	310	ug/kg	
191-24-2	Benzo(g,h,i)perylene	1240	310	ug/kg	
207-08-9	Benzo(k)fluoranthene	1520	310	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	310	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	310	ug/kg	
91-58-7	2-Chloronaphthalene	ND	310	ug/kg	
106-47-8	4-Chloroaniline	ND	620	ug/kg	
218-01-9	Chrysene	2550	310	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	310	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	310	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	310	ug/kg	

ND = Not detected RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 2 of 2

Client Sample ID: HA104\_8-13.2'

 Lab Sample ID:
 M96257-6
 Date Sampled:
 12/01/10

 Matrix:
 SO - Soil
 Date Received:
 12/01/10

 Method:
 SW846 8270C
 SW846 3510C
 Percent Solids:
 80.1

**Project:** Former Energy International Parcel, MA

### **ABN MCP List**

CAS No.	Compound	Result	RL	Units Q
95-50-1	1,2-Dichlorobenzene	ND	310	ug/kg
122-66-7	1,2-Diphenylhydrazine	ND	310	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	310	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	310	ug/kg
121-14-2	2,4-Dinitrotoluene	ND	620	ug/kg
606-20-2	2,6-Dinitrotoluene	ND	620	ug/kg
91-94-1	3,3'-Dichlorobenzidine	ND	310	ug/kg
53-70-3	Dibenzo(a,h)anthracene	464	310	ug/kg
132-64-9	Dibenzofuran	540	310	ug/kg
84-74-2	Di-n-butyl phthalate	ND	310	ug/kg
117-84-0	Di-n-octyl phthalate	ND	310	ug/kg
84-66-2	Diethyl phthalate	ND	310	ug/kg
131-11-3	Dimethyl phthalate	ND	310	ug/kg
117-81-7	bis(2-Ethylhexyl)phthalate	ND	310	ug/kg
206-44-0	Fluoranthene	4880	310	ug/kg
86-73-7	Fluorene	1120	310	ug/kg
118-74-1	Hexachlorobenzene	ND	310	ug/kg
87-68-3	Hexachlorobutadiene	ND	310	ug/kg
77-47-4	Hexachlorocyclopentadiene	ND	620	ug/kg
67-72-1	Hexachloroethane	ND	310	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	1190	310	ug/kg
78-59-1	Isophorone	ND	310	ug/kg
91-57-6	2-Methylnaphthalene	385	310	ug/kg
91-20-3	Naphthalene	1330	310	ug/kg
98-95-3	Nitrobenzene	ND	310	ug/kg
621-64-7	N-Nitroso-di-n-propylamine	ND	310	ug/kg
86-30-6	N-Nitrosodiphenylamine	ND	310	ug/kg
85-01-8	Phenanthrene	5120	310	ug/kg
129-00-0	Pyrene	4560	310	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	310	ug/kg
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	38%		30-130%
4165-62-2	Phenol-d5	37%		30-130%
118-79-6	2,4,6-Tribromophenol	46%		30-130%
4165-60-0	Nitrobenzene-d5	35%		30-130%
321-60-8	2-Fluorobiphenyl	41%		30-130%
1718-51-0	Terphenyl-d14	45%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



Page 1 of 1

Client Sample ID: HA104\_8-13.2'

 Lab Sample ID:
 M96257-6
 Date Sampled:
 12/01/10

 Matrix:
 SO - Soil
 Date Received:
 12/01/10

 Method:
 MADEP VPH REV 1.1
 Percent Solids:
 80.1

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BH17829.D 1 12/08/10 WS n/a n/a GBH929

Run #2

Initial Weight Final Volume Methanol Aliquot
Run #1 10.5 g 11.0 ml 100 ul
Run #2

### **Volatile TPHC Ranges**

CAS No.	Compound	Result	RL	Units Q		
	C5- C8 Aliphatics (Unadj.) C9- C12 Aliphatics (Unadj.) C9- C10 Aromatics (Unadj.) C5- C8 Aliphatics C9- C12 Aliphatics	ND ND ND ND ND	7800 7800 7800 7800 7800	ug/kg ug/kg ug/kg ug/kg ug/kg		
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	ts	
615-59-8 615-59-8	2,5-Dibromotoluene 2,5-Dibromotoluene	126% 119%		70-13 70-13		

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



L

Page 1 of 1

Client Sample ID: HA104\_8-13.2'

 Lab Sample ID:
 M96257-6
 Date Sampled:
 12/01/10

 Matrix:
 SO - Soil
 Date Received:
 12/01/10

 Method:
 MADEP EPH REV 1.1 SW846 3545
 Percent Solids:
 80.1

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BI2791.D 1 12/16/10 JD 12/10/10 OP23590 GBI104

Run #2

Initial Weight Final Volume
Run #1 11.1 g 2.0 ml

Run #2

### **Extractable TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C11-C22 Aromatics (Unadj.) C9-C18 Aliphatics C19-C36 Aliphatics C11-C22 Aromatics	292000 23000 83100 212000	22000 11000 11000 22000	ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	;
84-15-1 321-60-8 580-13-2	o-Terphenyl 2-Fluorobiphenyl	122% 93% 67%		40-140 40-140 40-140	)%
3386-33-2	2-Bromonaphthalene 1-Chlorooctadecane	47%		40-140	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



C

Page 1 of 1

Client Sample ID: HA104\_8-13.2'
Lab Sample ID: M96257-6
Matrix: SO - Soil

**Date Sampled:** 12/01/10 **Date Received:** 12/01/10 **Percent Solids:** 80.1

**Project:** Former Energy International Parcel, MA

### **Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	1.2	0.90	mg/kg	1	12/06/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Arsenic	9.5	0.90	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Barium	192	4.5	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Beryllium	0.62	0.36	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Cadmium	< 0.36	0.36	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Chromium	22.6	0.90	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Lead	302	0.90	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Mercury	1.8	0.18	mg/kg	5	12/07/10	12/08/10 PY	SW846 7471A <sup>2</sup>	SW846 7471A <sup>4</sup>
Nickel	17.2	3.6	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Selenium	< 0.90	0.90	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Silver	< 0.45	0.45	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Thallium	< 0.90	0.90	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Vanadium	32.6	0.90	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Zinc	178	1.8	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>

(1) Instrument QC Batch: MA12497(2) Instrument QC Batch: MA12500(3) Prep QC Batch: MP16338(4) Prep QC Batch: MP16345

Page 1 of 1

Client Sample ID: HA104\_8-13.2'

 Lab Sample ID:
 M96257-6
 Date Sampled:
 12/01/10

 Matrix:
 SO - Soil
 Date Received:
 12/01/10

 Percent Solids:
 80.1

**Project:** Former Energy International Parcel, MA

### **General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	7.8			1	12/03/10	MA	SW846 CHAP7
Cyanide Reactivity	< 1.9	1.9	mg/kg	1	12/08/10	BF	SW846 CHAP7
Ignitability (Flashpoint)	> 230		Deg. F	1	12/08/10	BF	SW846 1020
Redox Potential Vs H2 <sup>a</sup>	371		mv	1	12/03/10	MC	ASTM D1498-76M
Solids, Percent	80.1		%	1	12/03/10	HS	SM21 2540 B MOD.
Sulfide Reactivity	< 62	62	mg/kg	1	12/08/10	BF	SW846 CHAP7

(a) Analysis requested after recommended holding time.

Page 1 of 1

Client Sample ID: HA104\_8-13.2'

 Lab Sample ID:
 M96257-6A
 Date Sampled:
 12/01/10

 Matrix:
 SO - Soil
 Date Received:
 12/01/10

 Percent Solids:
 80.1

**Project:** Former Energy International Parcel, MA

### Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	<b>Prep Method</b>
Lead	0.74	D008	5.0	0.010	mg/l	1	12/07/10	12/07/10 DA	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA12502

(2) Prep QC Batch: MP16339

RL = Reporting Limit

MCL = Maximum Contamination Level (40 CFR 261 6/96)



C

Client Sample ID: HA103\_0-4' Lab Sample ID: M96257-7

**Matrix:** SO - Soil Method: SW846 8260B

**Project:** Former Energy International Parcel, MA **Date Sampled:** 12/01/10 **Date Received:** 12/01/10

Percent Solids: 90.6

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 R18629.D 1 12/07/10 GKMSR663 n/an/a Run #2

**Final Volume Methanol Aliquot Initial Weight** Run #1 10.0 ml 100 ul 11.8 g

Run #2

### **VOA MCP List**

CAS No.	Compound	Result	RL	Units Q	
67-64-1	Acetone	ND	260	ug/kg	
71-43-2	Benzene	36.0	26	ug/kg	
108-86-1	Bromobenzene	ND	260	ug/kg	
74-97-5	Bromochloromethane	ND	260	ug/kg	
75-27-4	Bromodichloromethane	ND	100	ug/kg	
75-25-2	Bromoform	ND	100	ug/kg	
74-83-9	Bromomethane	ND	100	ug/kg	
78-93-3	2-Butanone (MEK)	ND	260	ug/kg	
104-51-8	n-Butylbenzene	ND	260	ug/kg	
135-98-8	sec-Butylbenzene	ND	260	ug/kg	
98-06-6	tert-Butylbenzene	ND	260	ug/kg	
75-15-0	Carbon disulfide	ND	260	ug/kg	
56-23-5	Carbon tetrachloride	ND	100	ug/kg	
108-90-7	Chlorobenzene	ND	100	ug/kg	
75-00-3	Chloroethane	ND	260	ug/kg	
67-66-3	Chloroform	ND	100	ug/kg	
74-87-3	Chloromethane	ND	260	ug/kg	
95-49-8	o-Chlorotoluene	ND	260	ug/kg	
106-43-4	p-Chlorotoluene	ND	260	ug/kg	
108-20-3	Di-Isopropyl ether	ND	100	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	260	ug/kg	
124-48-1	Dibromochloromethane	ND	100	ug/kg	
106-93-4	1,2-Dibromoethane	ND	100	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	100	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	100	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	100	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	100	ug/kg	
75-34-3	1,1-Dichloroethane	ND	100	ug/kg	
107-06-2	1,2-Dichloroethane	ND	100	ug/kg	
75-35-4	1,1-Dichloroethene	ND	100	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	100	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	100	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: HA103\_0-4' Lab Sample ID: M96257-7

Matrix: SO - Soil Method: SW846 8260B

**Project:** Former Energy International Parcel, MA

Date Sampled: 12/01/10
Date Received: 12/01/10
Percent Solids: 90.6

### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	100	ug/kg	
142-28-9	1,3-Dichloropropane	ND	260	ug/kg	
594-20-7	2,2-Dichloropropane	ND	260	ug/kg	
563-58-6	1,1-Dichloropropene	ND	260	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	100	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	100	ug/kg	
123-91-1	1,4-Dioxane	ND	1300	ug/kg	
60-29-7	Ethyl Ether	ND	260	ug/kg	
100-41-4	Ethylbenzene	ND	100	ug/kg	
87-68-3	Hexachlorobutadiene	ND	260	ug/kg	
591-78-6	2-Hexanone	ND	260	ug/kg	
98-82-8	Isopropylbenzene	ND	260	ug/kg	
99-87-6	p-Isopropyltoluene	ND	260	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	100	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	260	ug/kg	
74-95-3	Methylene bromide	ND	260	ug/kg	
75-09-2	Methylene chloride	ND	100	ug/kg	
91-20-3	Naphthalene	267	260	ug/kg	
103-65-1	n-Propylbenzene	ND	260	ug/kg	
100-42-5	Styrene	ND	260	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	260	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	100	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	260	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	ug/kg	
127-18-4	Tetrachloroethene	ND	100	ug/kg	
109-99-9	Tetrahydrofuran	ND	520	ug/kg	
108-88-3	Toluene	ND	260	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	260	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	260	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	100	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	100	ug/kg	
79-01-6	Trichloroethene	ND	100	ug/kg	
75-69-4	Trichlorofluoromethane	ND	100	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	260	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	260	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	260	ug/kg	
75-01-4	Vinyl chloride	ND	100	ug/kg	
	m,p-Xylene	114	100	ug/kg	
95-47-6	o-Xylene	ND	100	ug/kg	
1330-20-7	Xylene (total)	179	100	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

 $N = \ \ Indicates \ presumptive \ evidence \ of \ a \ compound$ 



Page 3 of 3

Client Sample ID: HA103\_0-4'

 Lab Sample ID:
 M96257-7
 Date Sampled:
 12/01/10

 Matrix:
 SO - Soil
 Date Received:
 12/01/10

 Method:
 SW846 8260B
 Percent Solids:
 90.6

**Project:** Former Energy International Parcel, MA

### **VOA MCP List**

CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	112%		70-130%
2037-26-5	Toluene-D8	113%		70-130%
460-00-4	4-Bromofluorobenzene	110%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$ 

N = Indicates presumptive evidence of a compound



C

Client Sample ID: HA103\_0-4' Lab Sample ID: M96257-7

SO - Soil Method: SW846 8270C SW846 3510C

**Project:** Former Energy International Parcel, MA **Date Sampled:** 12/01/10 **Date Received:** 12/01/10

Percent Solids: 90.6

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 S19969.D 1 12/13/10 PR 12/06/10 OP23538 MSS826

Run #2

Matrix:

**Final Volume Initial Weight** 

Run #1 20.3 g 1.0 ml

Run #2

### **ABN MCP List**

CAS No.	Compound	Result	RL	Units Q	
65-85-0	Benzoic acid	ND	550	ug/kg	
95-57-8	2-Chlorophenol	ND	270	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	550	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	550	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	550	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1100	ug/kg	
95-48-7	2-Methylphenol	ND	550	ug/kg	
	3&4-Methylphenol	ND	550	ug/kg	
88-75-5	2-Nitrophenol	ND	550	ug/kg	
100-02-7	4-Nitrophenol	ND	1100	ug/kg	
87-86-5	Pentachlorophenol	ND	550	ug/kg	
108-95-2	Phenol	ND	270	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	550	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	550	ug/kg	
83-32-9	Acenaphthene	ND	270	ug/kg	
208-96-8	Acenaphthylene	ND	270	ug/kg	
98-86-2	Acetophenone	ND	550	ug/kg	
62-53-3	Aniline	ND	550	ug/kg	
120-12-7	Anthracene	641	270	ug/kg	
56-55-3	Benzo(a)anthracene	1470	270	ug/kg	
50-32-8	Benzo(a)pyrene	1270	270	ug/kg	
205-99-2	Benzo(b)fluoranthene	1330	270	ug/kg	
191-24-2	Benzo(g,h,i)perylene	903	270	ug/kg	
207-08-9	Benzo(k)fluoranthene	1020	270	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	270	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	270	ug/kg	
91-58-7	2-Chloronaphthalene	ND	270	ug/kg	
106-47-8	4-Chloroaniline	ND	550	ug/kg	
218-01-9	Chrysene	1520	270	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	270	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	270	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	270	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



### Page 2 of 2

# **Report of Analysis**

Client Sample ID: HA103\_0-4' Lab Sample ID: M96257-7

SO - Soil Method: SW846 8270C SW846 3510C

**Project:** Former Energy International Parcel, MA

**Date Sampled:** 12/01/10 **Date Received:** 12/01/10 Percent Solids: 90.6

### **ABN MCP List**

Matrix:

CAS No.	Compound	Result	RL	Units Q
95-50-1	1,2-Dichlorobenzene	ND	270	ug/kg
122-66-7	1,2-Diphenylhydrazine	ND	270	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	270	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	270	ug/kg
121-14-2	2,4-Dinitrotoluene	ND	550	ug/kg
606-20-2	2,6-Dinitrotoluene	ND	550	ug/kg
91-94-1	3,3'-Dichlorobenzidine	ND	270	ug/kg
53-70-3	Dibenzo(a,h)anthracene	347	270	ug/kg
132-64-9	Dibenzofuran	ND	270	ug/kg
84-74-2	Di-n-butyl phthalate	ND	270	ug/kg
117-84-0	Di-n-octyl phthalate	ND	270	ug/kg
84-66-2	Diethyl phthalate	ND	270	ug/kg
131-11-3	Dimethyl phthalate	ND	270	ug/kg
117-81-7	bis(2-Ethylhexyl)phthalate	ND	270	ug/kg
206-44-0	Fluoranthene	2550	270	ug/kg
86-73-7	Fluorene	ND	270	ug/kg
118-74-1	Hexachlorobenzene	ND	270	ug/kg
87-68-3	Hexachlorobutadiene	ND	270	ug/kg
77-47-4	Hexachlorocyclopentadiene	ND	550	ug/kg
67-72-1	Hexachloroethane	ND	270	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	934	270	ug/kg
78-59-1	Isophorone	ND	270	ug/kg
91-57-6	2-Methylnaphthalene	372	270	ug/kg
91-20-3	Naphthalene	398	270	ug/kg
98-95-3	Nitrobenzene	ND	270	ug/kg
621-64-7	N-Nitroso-di-n-propylamine	ND	270	ug/kg
86-30-6	N-Nitrosodiphenylamine	ND	270	ug/kg
85-01-8	Phenanthrene	2000	270	ug/kg
129-00-0	Pyrene	2370	270	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	270	ug/kg
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	60%		30-130%
4165-62-2	Phenol-d5	59%		30-130%
118-79-6	2,4,6-Tribromophenol	70%		30-130%
4165-60-0	Nitrobenzene-d5	60%		30-130%
321-60-8	2-Fluorobiphenyl	68%		30-130%
1718-51-0	Terphenyl-d14	65%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$ N = Indicates presumptive evidence of a compound



Page 1 of 1

Client Sample ID: HA103\_0-4' Lab Sample ID: M96257-7

Lab Sample ID:M96257-7Date Sampled:12/01/10Matrix:SO - SoilDate Received:12/01/10Method:MADEP VPH REV 1.1Percent Solids:90.6

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BH17830.D 1 12/08/10 WS n/a n/a GBH929

Run #2

Run #1 11.8 g Final Volume Methanol Aliquot 100 ul

Run #2

### **Volatile TPHC Ranges**

CAS No.	Compound	Result	RL Units		Q
	C5- C8 Aliphatics (Unadj.) C9- C12 Aliphatics (Unadj.) C9- C10 Aromatics (Unadj.) C5- C8 Aliphatics C9- C12 Aliphatics	ND ND ND ND ND	5700 5700 5700 5700 5700	ug/kg ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	ts
615-59-8 615-59-8	2,5-Dibromotoluene 2,5-Dibromotoluene	107% 100%		70-13 70-13	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



L

Page 1 of 1

Client Sample ID: HA103\_0-4' Lab Sample ID: M96257-7

Matrix: SO - Soil

Method: MADEP EPH REV 1.1 SW846 3545

**Project:** Former Energy International Parcel, MA **Date Sampled:** 12/01/10 **Date Received:** 12/01/10 Percent Solids: 90.6

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 BI2780.D 1 12/15/10 JD 12/10/10 OP23590 **GBI104** 

Run #2

**Final Volume Initial Weight** 

Run #1 2.0 ml 11.8 g

Run #2

### **Extractable TPHC Ranges**

CAS No.	Compound	Result	RL	Units Q
	C11-C22 Aromatics (Unadj.) C9-C18 Aliphatics C19-C36 Aliphatics	167000 14800 85500	19000 9400 9400	ug/kg ug/kg ug/kg
	C11-C22 Aromatics	138000	19000	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	101%		40-140%
321-60-8	2-Fluorobiphenyl	92%		40-140%
580-13-2	2-Bromonaphthalene	62%		40-140%
3386-33-2	1-Chlorooctadecane	29% a		40-140%

(a) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



# Report of Analysis Page 1 of 1

 Client Sample ID:
 HA103\_0-4'

 Lab Sample ID:
 M96257-7
 Date Sampled:
 12/01/10

 Matrix:
 SO - Soil
 Date Received:
 12/01/10

 Percent Solids:
 90.6

**Project:** Former Energy International Parcel, MA

### **Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	1.4	0.82	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Arsenic	7.8	0.82	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Barium	57.9	4.1	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Beryllium	0.37	0.33	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Cadmium	0.57	0.33	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Chromium	14.1	0.82	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Lead	175	0.82	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Mercury	0.36	0.033	mg/kg	1	12/03/10	12/03/10 PY	SW846 7471A <sup>2</sup>	SW846 7471A <sup>4</sup>
Nickel	14.4	3.3	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Selenium	< 0.82	0.82	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Silver	< 0.41	0.41	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Thallium	< 0.82	0.82	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Vanadium	24.3	0.82	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Zinc	107	1.6	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>

(1) Instrument QC Batch: MA12490(2) Instrument QC Batch: MA12492(3) Prep QC Batch: MP16330(4) Prep QC Batch: MP16331

Page 1 of 1

Client Sample ID: HA103\_0-4'
Lab Sample ID: M96257-7
Matrix: SO - Soil

**Date Sampled:** 12/01/10 **Date Received:** 12/01/10 **Percent Solids:** 90.6

**Project:** Former Energy International Parcel, MA

### **General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	8.6			1	12/03/10	MA	SW846 CHAP7
Cyanide Reactivity	< 1.7	1.7	mg/kg	1	12/08/10	BF	SW846 CHAP7
Ignitability (Flashpoint)	> 230		Deg. F	1	12/08/10	BF	SW846 1020
Redox Potential Vs H2 <sup>a</sup>	402		mv	1	12/03/10	MC	ASTM D1498-76M
Solids, Percent	90.6		%	1	12/03/10	HS	SM21 2540 B MOD.
Sulfide Reactivity	< 55	55	mg/kg	1	12/08/10	BF	SW846 CHAP7

(a) Analysis requested after recommended holding time.

Page 1 of 1

Client Sample ID: HA103\_0-4'

Lab Sample ID: M96257-7A **Date Sampled:** 12/01/10 Matrix: SO - Soil **Date Received:** 12/01/10 **Percent Solids:** 90.6

Project: Former Energy International Parcel, MA

### Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	<b>Prep Method</b>
Lead	0.043	D008	5.0	0.010	mg/l	1	12/07/10	12/07/10 DA	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA12502

(2) Prep QC Batch: MP16339

RL = Reporting Limit

MCL = Maximum Contamination Level (40 CFR 261 6/96)



Client Sample ID: HA103\_4-8' Lab Sample ID: M96257-8

**Matrix:** SO - Soil Method: SW846 8260B

**Project:** Former Energy International Parcel, MA **Date Sampled:** 12/01/10 **Date Received:** 12/01/10 Percent Solids: 81.7

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 R18676.D 1 12/09/10 GKMSR666 n/an/a

Run #2

**Final Volume Methanol Aliquot Initial Weight** 

Run #1 10.0 ml 100 ul 9.16 g

Run #2

### **VOA MCP List**

CAS No.	Compound	Result	RL	Units Q	
67-64-1	Acetone	ND	390	ug/kg	
71-43-2	Benzene	80.8	39	ug/kg	
108-86-1	Bromobenzene	ND	390	ug/kg	
74-97-5	Bromochloromethane	ND	390	ug/kg	
75-27-4	Bromodichloromethane	ND	160	ug/kg	
75-25-2	Bromoform	ND	160	ug/kg	
74-83-9	Bromomethane	ND	160	ug/kg	
78-93-3	2-Butanone (MEK)	ND	390	ug/kg	
104-51-8	n-Butylbenzene	ND	390	ug/kg	
135-98-8	sec-Butylbenzene	ND	390	ug/kg	
98-06-6	tert-Butylbenzene	ND	390	ug/kg	
75-15-0	Carbon disulfide	ND	390	ug/kg	
56-23-5	Carbon tetrachloride	ND	160	ug/kg	
108-90-7	Chlorobenzene	ND	160	ug/kg	
75-00-3	Chloroethane	ND	390	ug/kg	
67-66-3	Chloroform	ND	160	ug/kg	
74-87-3	Chloromethane	ND	390	ug/kg	
95-49-8	o-Chlorotoluene	ND	390	ug/kg	
106-43-4	p-Chlorotoluene	ND	390	ug/kg	
108-20-3	Di-Isopropyl ether	ND	160	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	390	ug/kg	
124-48-1	Dibromochloromethane	ND	160	ug/kg	
106-93-4	1,2-Dibromoethane	ND	160	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	160	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	160	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	160	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	160	ug/kg	
75-34-3	1,1-Dichloroethane	ND	160	ug/kg	
107-06-2	1,2-Dichloroethane	ND	160	ug/kg	
75-35-4	1,1-Dichloroethene	ND	160	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	160	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	160	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: HA103\_4-8'
Lab Sample ID: M96257-8
Matrix: SO - Soil

Method: SW846 8260B

Project: Former Energy International Parcel, MA

 Date Sampled:
 12/01/10

 Date Received:
 12/01/10

 Percent Solids:
 81.7

### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	160	ug/kg	
142-28-9	1,3-Dichloropropane	ND	390	ug/kg	
594-20-7	2,2-Dichloropropane	ND	390	ug/kg	
563-58-6	1,1-Dichloropropene	ND	390	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	160	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	160	ug/kg	
123-91-1	1,4-Dioxane	ND	2000	ug/kg	
60-29-7	Ethyl Ether	ND	390	ug/kg	
100-41-4	Ethylbenzene	ND	160	ug/kg	
87-68-3	Hexachlorobutadiene	ND	390	ug/kg	
591-78-6	2-Hexanone	ND	390	ug/kg	
98-82-8	Isopropylbenzene	ND	390	ug/kg	
99-87-6	p-Isopropyltoluene	ND	390	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	160	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)		390	ug/kg	
74-95-3	Methylene bromide	ND	390	ug/kg	
75-09-2	Methylene chloride	ND	160	ug/kg	
91-20-3	Naphthalene	557	390	ug/kg	
103-65-1	n-Propylbenzene	ND	390	ug/kg	
100-42-5	Styrene	ND	390	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	390	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	160	ug/kg	
630-20-6	1, 1, 1, 2-Tetrachloroethane	ND	390	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	160	ug/kg	
127-18-4	Tetrachloroethene	ND	160	ug/kg	
109-99-9	Tetrahydrofuran	ND	780	ug/kg	
108-88-3	Toluene	ND	390	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	390	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	390	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	160	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	160	ug/kg	
79-01-6	Trichloroethene	ND	160	ug/kg	
75-69-4	Trichlorofluoromethane	ND	160	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	390	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	390	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	390	ug/kg	
75-01-4	Vinyl chloride	ND	160	ug/kg	
	m,p-Xylene	231	160	ug/kg	
95-47-6	o-Xylene	ND	160	ug/kg	
1330-20-7	Xylene (total)	360	160	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



Page 3 of 3

Client Sample ID: HA103\_4-8'

 Lab Sample ID:
 M96257-8
 Date Sampled:
 12/01/10

 Matrix:
 SO - Soil
 Date Received:
 12/01/10

 Method:
 SW846 8260B
 Percent Solids:
 81.7

**Project:** Former Energy International Parcel, MA

### **VOA MCP List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		70-130%
2037-26-5	Toluene-D8	108%		70-130%
460-00-4	4-Bromofluorobenzene	107%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



W

Client Sample ID: HA103\_4-8' Lab Sample ID: M96257-8

 Lab Sample ID:
 M96257-8
 Date Sampled:
 12/01/10

 Matrix:
 SO - Soil
 Date Received:
 12/01/10

 Method:
 SW846 8270C
 SW846 3510C
 Percent Solids:
 81.7

Project: Former Energy International Parcel, MA

Former Energy International Parcer, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 S19970.D 1 12/13/10 PR 12/06/10 OP23538 MSS826

Run #2

Initial Weight Final Volume

Run #1 20.1 g 1.0 ml

Run #2

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units Q	
65-85-0	Benzoic acid	ND	610	ug/kg	
95-57-8	2-Chlorophenol	ND	300	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	610	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	610	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	610	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	ug/kg	
95-48-7	2-Methylphenol	ND	610	ug/kg	
	3&4-Methylphenol	ND	610	ug/kg	
88-75-5	2-Nitrophenol	ND	610	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	ug/kg	
87-86-5	Pentachlorophenol	ND	610	ug/kg	
108-95-2	Phenol	ND	300	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	610	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	610	ug/kg	
83-32-9	Acenaphthene	383	300	ug/kg	
208-96-8	Acenaphthylene	564	300	ug/kg	
98-86-2	Acetophenone	ND	610	ug/kg	
62-53-3	Aniline	ND	610	ug/kg	
120-12-7	Anthracene	1300	300	ug/kg	
56-55-3	Benzo(a)anthracene	2810	300	ug/kg	
50-32-8	Benzo(a)pyrene	2190	300	ug/kg	
205-99-2	Benzo(b)fluoranthene	2080	300	ug/kg	
191-24-2	Benzo(g,h,i)perylene	1440	300	ug/kg	
207-08-9	Benzo(k)fluoranthene	1950	300	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	300	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	300	ug/kg	
91-58-7	2-Chloronaphthalene	ND	300	ug/kg	
106-47-8	4-Chloroaniline	ND	610	ug/kg	
218-01-9	Chrysene	2960	300	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	300	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	300	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	300	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: HA103\_4-8' Lab Sample ID: M96257-8

SO - Soil Method: SW846 8270C SW846 3510C

**Project:** Former Energy International Parcel, MA

### **Date Sampled:** 12/01/10 **Date Received:** 12/01/10 **Percent Solids:** 81.7

### **ABN MCP List**

Matrix:

CAS No.	Compound	Result	RL	Units Q
95-50-1	1,2-Dichlorobenzene	ND	300	ug/kg
122-66-7	1,2-Diphenylhydrazine	ND	300	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	300	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	300	ug/kg
121-14-2	2,4-Dinitrotoluene	ND	610	ug/kg
606-20-2	2,6-Dinitrotoluene	ND	610	ug/kg
91-94-1	3,3'-Dichlorobenzidine	ND	300	ug/kg
53-70-3	Dibenzo(a,h)anthracene	595	300	ug/kg
132-64-9	Dibenzofuran	494	300	ug/kg
84-74-2	Di-n-butyl phthalate	ND	300	ug/kg
117-84-0	Di-n-octyl phthalate	ND	300	ug/kg
84-66-2	Diethyl phthalate	ND	300	ug/kg
131-11-3	Dimethyl phthalate	ND	300	ug/kg
117-81-7	bis(2-Ethylhexyl)phthalate	ND	300	ug/kg
206-44-0	Fluoranthene	4700	300	ug/kg
86-73-7	Fluorene	435	300	ug/kg
118-74-1	Hexachlorobenzene	ND	300	ug/kg
87-68-3	Hexachlorobutadiene	ND	300	ug/kg
77-47-4	Hexachlorocyclopentadiene	ND	610	ug/kg
67-72-1	Hexachloroethane	ND	300	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	1520	300	ug/kg
78-59-1	Isophorone	ND	300	ug/kg
91-57-6	2-Methylnaphthalene	881	300	ug/kg
91-20-3	Naphthalene	861	300	ug/kg
98-95-3	Nitrobenzene	ND	300	ug/kg
621-64-7	N-Nitroso-di-n-propylamine	ND	300	ug/kg
86-30-6	N-Nitrosodiphenylamine	ND	300	ug/kg
85-01-8	Phenanthrene	3720	300	ug/kg
129-00-0	Pyrene	4230	300	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	300	ug/kg
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	64%		30-130%
4165-62-2	Phenol-d5	63%		30-130%
118-79-6	2,4,6-Tribromophenol	81%		30-130%
4165-60-0	Nitrobenzene-d5	67%		30-130%
321-60-8	2-Fluorobiphenyl	77%		30-130%
1718-51-0	Terphenyl-d14	73%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$ N = Indicates presumptive evidence of a compound



Page 1 of 1

Client Sample ID: HA103\_4-8' Lab Sample ID: M96257-8

**Date Sampled:** 12/01/10 Matrix: **Date Received:** 12/01/10 SO - Soil Method: MADEP VPH REV 1.1 Percent Solids: 81.7

**Project:** Former Energy International Parcel, MA

File ID DF **Prep Batch Analytical Batch** Analyzed By **Prep Date** GBH929 Run #1 BH17831.D 1 12/08/10 WS n/an/a

Run #2

**Initial Weight Final Volume Methanol Aliquot** 

Run #1 11.0 ml 100 ul 9.16 g

Run #2

### **Volatile TPHC Ranges**

CAS No.	Compound	Result	RL	Q	
	C5- C8 Aliphatics (Unadj.) C9- C12 Aliphatics (Unadj.) C9- C10 Aromatics (Unadj.) C5- C8 Aliphatics C9- C12 Aliphatics	ND 12600 ND ND ND	8500 8500 8500 8500 8500	ug/kg ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	its
615-59-8 615-59-8	2,5-Dibromotoluene 2,5-Dibromotoluene	109% 96%		70-13 70-13	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



### Page 1 of 1

### **Report of Analysis**

By

JD

Client Sample ID: HA103\_4-8' Lab Sample ID: M96257-8

File ID

BI2744.D

Method: MADEP EPH REV 1.1 SW846 3545

SO - Soil

**Project:** Former Energy International Parcel, MA

DF

1

Analyzed

12/14/10

**Date Sampled:** 12/01/10 **Date Received:** 12/01/10 Percent Solids: 81.7

12/10/10

**Analytical Batch Prep Date Prep Batch** 

**GBI102** 

OP23590

Run #1 Run #2

**Matrix:** 

**Final Volume Initial Weight** Run #1 2.0 ml 11.4 g

Run #2

### **Extractable TPHC Ranges**

CAS No.	Compound	Result	RL	Units Q
	C11-C22 Aromatics (Unadj.) C9-C18 Aliphatics C19-C36 Aliphatics C11-C22 Aromatics	318000 27500 112000 257000	21000 11000 11000 21000	ug/kg ug/kg ug/kg ug/kg
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
84-15-1 321-60-8 580-13-2	o-Terphenyl 2-Fluorobiphenyl 2-Bromonaphthalene	107% 86% 59%		40-140% 40-140% 40-140%
3386-33-2	1-Chlorooctadecane	37% a		40-140%

(a) Outside control limits due to possible matrix interference. Confirmed by refractionation.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



Client Sample ID: HA103\_4-8'

 Lab Sample ID:
 M96257-8
 Date Sampled:
 12/01/10

 Matrix:
 SO - Soil
 Date Received:
 12/01/10

 Percent Solids:
 81.7

**Project:** Former Energy International Parcel, MA

### **Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	<b>Prep Method</b>
Antimony	3.0	0.93	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Arsenic	13.1	0.93	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Barium	120	4.6	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Beryllium	0.41	0.37	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Cadmium	0.96	0.37	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Chromium	19.8	0.93	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Lead	284	0.93	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Mercury	0.77	0.038	mg/kg	1	12/03/10	12/03/10 PY	SW846 7471A <sup>2</sup>	SW846 7471A <sup>4</sup>
Nickel	18.6	3.7	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Selenium	1.1	0.93	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Silver	< 0.46	0.46	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Thallium	< 0.93	0.93	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Vanadium	24.3	0.93	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Zinc	205	1.9	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>

(1) Instrument QC Batch: MA12490(2) Instrument QC Batch: MA12492(3) Prep QC Batch: MP16330(4) Prep QC Batch: MP16331

Page 1 of 1

Client Sample ID: HA103\_4-8'
Lab Sample ID: M96257-8
Matrix: SO - Soil

**Date Sampled:** 12/01/10 **Date Received:** 12/01/10 **Percent Solids:** 81.7

**Project:** Former Energy International Parcel, MA

## **General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	7.4			1	12/03/10	MA	SW846 CHAP7
Cyanide Reactivity	< 1.8	1.8	mg/kg	1	12/08/10	BF	SW846 CHAP7
Ignitability (Flashpoint)	> 230		Deg. F	1	12/08/10	BF	SW846 1020
Redox Potential Vs H2 a	413		mv	1	12/03/10	MC	ASTM D1498-76M
Solids, Percent	81.7		%	1	12/03/10	HS	SM21 2540 B MOD.
Sulfide Reactivity	< 61	61	mg/kg	1	12/08/10	BF	SW846 CHAP7

(a) Analysis requested after recommended holding time.

Page 1 of 1

Client Sample ID: HA103\_4-8'

 Lab Sample ID:
 M96257-8A
 Date Sampled:
 12/01/10

 Matrix:
 SO - Soil
 Date Received:
 12/01/10

 Percent Solids:
 81.7

**Project:** Former Energy International Parcel, MA

## Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	<b>Prep Method</b>
Lead	0.082	D008	5.0	0.010	mg/l	1	12/07/10	12/07/10 DA	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA12502

(2) Prep QC Batch: MP16339

RL = Reporting Limit

MCL = Maximum Contamination Level (40 CFR 261 6/96)



C

Client Sample ID: HA103\_8-12'

Lab Sample ID:M96257-9Matrix:SO - SoilMethod:SW846 8260B

**Project:** Former Energy International Parcel, MA

Date Sampled: 12/01/10 Date Received: 12/01/10 Percent Solids: 83.0

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 R18677.D 1 12/09/10 GKn/a MSR666 n/a Run #2

Run #1 13.7 g Final Volume Methanol Aliquot 10.0 ml 100 ul

#### **VOA MCP List**

Run #2

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	270	ug/kg	
71-43-2	Benzene	ND	27	ug/kg	
108-86-1	Bromobenzene	ND	270	ug/kg	
74-97-5	Bromochloromethane	ND	270	ug/kg	
75-27-4	Bromodichloromethane	ND	110	ug/kg	
75-25-2	Bromoform	ND	110	ug/kg	
74-83-9	Bromomethane	ND	110	ug/kg	
78-93-3	2-Butanone (MEK)	ND	270	ug/kg	
104-51-8	n-Butylbenzene	ND	270	ug/kg	
135-98-8	sec-Butylbenzene	ND	270	ug/kg	
98-06-6	tert-Butylbenzene	ND	270	ug/kg	
75-15-0	Carbon disulfide	ND	270	ug/kg	
56-23-5	Carbon tetrachloride	ND	110	ug/kg	
108-90-7	Chlorobenzene	ND	110	ug/kg	
75-00-3	Chloroethane	ND	270	ug/kg	
67-66-3	Chloroform	ND	110	ug/kg	
74-87-3	Chloromethane	ND	270	ug/kg	
95-49-8	o-Chlorotoluene	ND	270	ug/kg	
106-43-4	p-Chlorotoluene	ND	270	ug/kg	
108-20-3	Di-Isopropyl ether	ND	110	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	270	ug/kg	
124-48-1	Dibromochloromethane	ND	110	ug/kg	
106-93-4	1,2-Dibromoethane	ND	110	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	110	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	110	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	110	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	110	ug/kg	
75-34-3	1,1-Dichloroethane	ND	110	ug/kg	
107-06-2	1,2-Dichloroethane	ND	110	ug/kg	
75-35-4	1,1-Dichloroethene	ND	110	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	110	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	110	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

 $N = \ Indicates \ presumptive \ evidence \ of \ a \ compound$ 



Page 2 of 3

Client Sample ID: HA103\_8-12' Lab Sample ID: M96257-9

Matrix: SO - Soil Method: SW846 8260B

**Project:** Former Energy International Parcel, MA

Date Sampled: 12/01/10 Date Received: 12/01/10 Percent Solids: 83.0

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	110	ug/kg	
142-28-9	1,3-Dichloropropane	ND	270	ug/kg	
594-20-7	2,2-Dichloropropane	ND	270	ug/kg	
563-58-6	1,1-Dichloropropene	ND	270	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	110	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	110	ug/kg	
123-91-1	1,4-Dioxane	ND	1400	ug/kg	
60-29-7	Ethyl Ether	ND	270	ug/kg	
100-41-4	Ethylbenzene	ND	110	ug/kg	
87-68-3	Hexachlorobutadiene	ND	270	ug/kg	
591-78-6	2-Hexanone	ND	270	ug/kg	
98-82-8	Isopropylbenzene	ND	270	ug/kg	
99-87-6	p-Isopropyltoluene	ND	270	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	110	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	270	ug/kg	
74-95-3	Methylene bromide	ND	270	ug/kg	
75-09-2	Methylene chloride	ND	110	ug/kg	
91-20-3	Naphthalene	738	270	ug/kg	
103-65-1	n-Propylbenzene	ND	270	ug/kg	
100-42-5	Styrene	ND	270	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	270	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	110	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	270	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	110	ug/kg	
127-18-4	Tetrachloroethene	ND	110	ug/kg	
109-99-9	Tetrahydrofuran	ND	540	ug/kg	
108-88-3	Toluene	ND	270	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	270	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	270	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	110	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	110	ug/kg	
79-01-6	Trichloroethene	ND	110	ug/kg	
75-69-4	Trichlorofluoromethane	ND	110	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	270	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	270	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	270	ug/kg	
75-01-4	Vinyl chloride	ND	110	ug/kg	
	m,p-Xylene	ND	110	ug/kg	
95-47-6	o-Xylene	ND	110	ug/kg	
1330-20-7	Xylene (total)	ND	110	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 3 of 3

Client Sample ID: HA103\_8-12'

Lab Sample ID: M96257-9 **Date Sampled:** 12/01/10 Matrix: SO - Soil **Date Received:** 12/01/10 Method: SW846 8260B Percent Solids: 83.0

Former Energy International Parcel, MA **Project:** 

#### **VOA MCP List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		70-130%
2037-26-5	Toluene-D8	112%		70-130%
460-00-4	4-Bromofluorobenzene	109%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$ 



### Page 1 of 2

# **Report of Analysis**

Client Sample ID: HA103\_8-12' Lab Sample ID: M96257-9

File ID

SO - Soil Method: SW846 8270C SW846 3510C

**Project:** Former Energy International Parcel, MA

DF

**Date Sampled:** 12/01/10 **Date Received:** 12/01/10 Percent Solids: 83.0

**Prep Date Analytical Batch Prep Batch** 

Analyzed By Run #1 S19971.D 10 12/13/10 PR 12/06/10 OP23538 MSS826

Run #2

Matrix:

**Final Volume Initial Weight** 

Run #1 1.0 ml 20.5 g

Run #2

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	5900	ug/kg	
95-57-8	2-Chlorophenol	ND	2900	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	5900	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	5900	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	5900	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	12000	ug/kg	
95-48-7	2-Methylphenol	ND	5900	ug/kg	
	3&4-Methylphenol	ND	5900	ug/kg	
88-75-5	2-Nitrophenol	ND	5900	ug/kg	
100-02-7	4-Nitrophenol	ND	12000	ug/kg	
87-86-5	Pentachlorophenol	ND	5900	ug/kg	
108-95-2	Phenol	ND	2900	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	5900	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	5900	ug/kg	
83-32-9	Acenaphthene	ND	2900	ug/kg	
208-96-8	Acenaphthylene	ND	2900	ug/kg	
98-86-2	Acetophenone	ND	5900	ug/kg	
62-53-3	Aniline	ND	5900	ug/kg	
120-12-7	Anthracene	ND	2900	ug/kg	
56-55-3	Benzo(a)anthracene	4110	2900	ug/kg	
50-32-8	Benzo(a)pyrene	3210	2900	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	2900	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	2900	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	2900	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	2900	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	2900	ug/kg	
91-58-7	2-Chloronaphthalene	ND	2900	ug/kg	
106-47-8	4-Chloroaniline	ND	5900	ug/kg	
218-01-9	Chrysene	4080	2900	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	2900	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	2900	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	2900	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: HA103\_8-12' Lab Sample ID: M96257-9

Matrix: SO - Soil

Method: SW846 8270C SW846 3510C

**Project:** Former Energy International Parcel, MA

**Date Sampled:** 12/01/10

**Date Received:** 12/01/10

Percent Solids: 83.0

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units Q
95-50-1	1,2-Dichlorobenzene	ND	2900	ug/kg
122-66-7	1,2-Diphenylhydrazine	ND	2900	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	2900	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	2900	ug/kg
121-14-2	2,4-Dinitrotoluene	ND	5900	ug/kg
606-20-2	2,6-Dinitrotoluene	ND	5900	ug/kg
91-94-1	3,3'-Dichlorobenzidine	ND	2900	ug/kg
53-70-3	Dibenzo(a,h)anthracene	ND	2900	ug/kg
132-64-9	Dibenzofuran	ND	2900	ug/kg
84-74-2	Di-n-butyl phthalate	ND	2900	ug/kg
117-84-0	Di-n-octyl phthalate	ND	2900	ug/kg
84-66-2	Diethyl phthalate	ND	2900	ug/kg
131-11-3	Dimethyl phthalate	ND	2900	ug/kg
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2900	ug/kg
206-44-0	Fluoranthene	7980	2900	ug/kg
86-73-7	Fluorene	ND	2900	ug/kg
118-74-1	Hexachlorobenzene	ND	2900	ug/kg
87-68-3	Hexachlorobutadiene	ND	2900	ug/kg
77-47-4	Hexachlorocyclopentadiene	ND	5900	ug/kg
67-72-1	Hexachloroethane	ND	2900	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2900	ug/kg
78-59-1	Isophorone	ND	2900	ug/kg
91-57-6	2-Methylnaphthalene	ND	2900	ug/kg
91-20-3	Naphthalene	ND	2900	ug/kg
98-95-3	Nitrobenzene	ND	2900	ug/kg
621-64-7	N-Nitroso-di-n-propylamine	ND	2900	ug/kg
86-30-6	N-Nitrosodiphenylamine	ND	2900	ug/kg
85-01-8	Phenanthrene	7650	2900	ug/kg
129-00-0	Pyrene	6720	2900	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	2900	ug/kg
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	66%		30-130%
4165-62-2	Phenol-d5	61%		30-130%
118-79-6	2,4,6-Tribromophenol	70%		30-130%
4165-60-0	Nitrobenzene-d5	63%		30-130%
321-60-8	2-Fluorobiphenyl	81%		30-130%
1718-51-0	Terphenyl-d14	78%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$ 



Page 1 of 1

Client Sample ID: HA103\_8-12

Lab Sample ID:M96257-9Date Sampled:12/01/10Matrix:SO - SoilDate Received:12/01/10Method:MADEP VPH REV 1.1Percent Solids:83.0

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 a BH17832.D 1 12/08/10 WS n/a n/a GBH929

Run #2

Run #1 13.7 g 11.0 ml Methanol Aliquot 100 ul

Run #2

#### **Volatile TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C5- C8 Aliphatics (Unadj.) C9- C12 Aliphatics (Unadj.) C9- C10 Aromatics (Unadj.) C5- C8 Aliphatics C9- C12 Aliphatics	ND 33200 19300 ND 13900	5900 5900 5900 5900 5900	ug/kg ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	ts
615-59-8 615-59-8	2,5-Dibromotoluene 2,5-Dibromotoluene	128% 124%		70-13 70-13	

(a) Soil to methanol ratio greater than 1.25 to 1.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



C

By

JD

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**GBI102** 

Client Sample ID: HA103\_8-12' Lab Sample ID: M96257-9

Matrix: SO - Soil

File ID

BI2737.D

Method: MADEP EPH REV 1.1 SW846 3545

**Project:** Former Energy International Parcel, MA

DF

1

Analyzed

12/14/10

**Date Sampled:** 12/01/10 **Date Received:** 12/01/10 Percent Solids: 83.0

12/10/10

**Prep Date Analytical Batch Prep Batch** OP23590

Run #1 Run #2

> **Initial Weight Final Volume**

Run #1 2.0 ml 11.2 g

Run #2

#### **Extractable TPHC Ranges**

CAS No.	Compound	Result	RL	Units Q
	C11-C22 Aromatics (Unadj.) C9-C18 Aliphatics C19-C36 Aliphatics C11-C22 Aromatics	275000 98200 117000 217000	21000 11000 11000 21000	ug/kg ug/kg ug/kg ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	122%		40-140%
321-60-8	2-Fluorobiphenyl	91%		40-140%
580-13-2	2-Bromonaphthalene	64%		40-140%
3386-33-2	1-Chlorooctadecane	41%		40-140%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



Page 1 of 1

 Client Sample ID:
 HA103\_8-12'

 Lab Sample ID:
 M96257-9
 Date Sampled:
 12/01/10

 Matrix:
 SO - Soil
 Date Received:
 12/01/10

 Percent Solids:
 83.0

**Project:** Former Energy International Parcel, MA

#### **Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony a	< 4.3	4.3	mg/kg	5	12/02/10	12/03/10 DA	SW846 6010C <sup>3</sup>	SW846 3050B <sup>4</sup>
Arsenic	20.8	0.87	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Barium	136	4.3	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Beryllium	0.35	0.35	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Cadmium	0.66	0.35	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Chromium	15.2	0.87	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Lead	411	0.87	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Mercury	2.7	0.18	mg/kg	5	12/03/10	12/03/10 PY	SW846 7471A <sup>2</sup>	SW846 7471A <sup>5</sup>
Nickel	26.3	3.5	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Selenium	0.97	0.87	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Silver	< 0.43	0.43	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Thallium	< 0.87	0.87	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Vanadium	22.3	0.87	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Zinc	266	1.7	mg/kg	1	12/02/10	12/02/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>

(1) Instrument QC Batch: MA12490
(2) Instrument QC Batch: MA12492
(3) Instrument QC Batch: MA12493
(4) Prep QC Batch: MP16330
(5) Prep QC Batch: MP16331

(a) Elevated RL due to dilution required for matrix interference.

Page 1 of 1

Client Sample ID: HA103\_8-12' Lab Sample ID: M96257-9

**Date Sampled:** 12/01/10 **Date Received:** 12/01/10 **Percent Solids:** 83.0

**Project:** Former Energy International Parcel, MA

SO - Soil

## **General Chemistry**

Matrix:

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	7.5			1	12/03/10	MA	SW846 CHAP7
Cyanide Reactivity	< 1.8	1.8	mg/kg	1	12/08/10	BF	SW846 CHAP7
Ignitability (Flashpoint)	> 230		Deg. F	1	12/08/10	BF	SW846 1020
Redox Potential Vs H2 <sup>a</sup>	394		mv	1	12/03/10	MC	ASTM D1498-76M
Solids, Percent	83		%	1	12/03/10	HS	SM21 2540 B MOD.
Sulfide Reactivity	< 60	60	mg/kg	1	12/08/10	BF	SW846 CHAP7

(a) Analysis requested after recommended holding time.

Page 1 of 1

Client Sample ID: HA103\_8-12'

 Lab Sample ID:
 M96257-9A
 Date Sampled:
 12/01/10

 Matrix:
 SO - Soil
 Date Received:
 12/01/10

 Percent Solids:
 83.0

**Project:** Former Energy International Parcel, MA

## Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	<b>Prep Method</b>
Lead	0.35	D008	5.0	0.010	mg/l	1	12/07/10	12/07/10 DA	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA12502(2) Prep QC Batch: MP16339

RL = Reporting Limit

MCL = Maximum Contamination Level (40 CFR 261 6/96)



C



Misc. Forms

Custody Documents and Other Forms

## Includes the following where applicable:

- Certification Exceptions
- Parameter Certifications (MA)
- · Chain of Custody
- MCP Form
- EPH Form
- VPH Form
- Sample Tracking Chronicle



# **Parameter Certification Exceptions**

Job Number: M96257

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA Project:

The following parameters included in this report are exceptions to NELAC certification.

The certification status of each is indicated below.

Parameter	CAS#	Method	Mat	Certification Status
tert-Amyl Methyl Ether	994-05-8	SW846 8260B	SO	Certified by SOP MMS105/GC-MS
tert-Butyl Ethyl Ether	637-92-3	SW846 8260B	SO	Certified by SOP MMS105/GC-MS
Di-Isopropyl ether Tetrahydrofuran	108-20-3 109-99-9	SW846 8260B SW846 8260B	SO SO	Certified by SOP MMS105/GC-MS Certified by SOP MMS105/GC-MS

HAL ALD	EY& 4 RICH \$	Ialey & Aldi 65 Medford Juite 2200, Boston, MA	St., 02129-1400				CHA	IN	OF (	CUST	OD	Y RI	ECORI	D	Phon Fax Page	e (617) 886-7400 (617) 886-7600
H&A FILE		(୧୬୮୫)					LABORAT	ORY	ACC	UTEST			DELIVERY	Y DATE	12/1	(10
PROJECT I	NAMEFOR THE	ENDEGY	INTER	MILLONA	L PARC	EL	ADDRESS	7	U MRLIZ	UROUG	H N	A	TURNARO	UND TIME	10 a	au
H&A CONT	TACT 3	· Kin	MAN	)			CONTACT		¥. C	110800	ς,		PROJECT	MANAGER		ocithu
		1				$\overline{\Box}$				alysis Request			<del>_</del>	1		4
Sa	mple No.	Date	Time	Depth (F4)	Туре	W vov	PAH only	Pesticides PCBs	Full Suite C-ranges only EPH Full Suite C-ranges only	TPH (specify)	(gritability Corrosivity		Number of Containers	(special instructions, pr	Comments ecautions, addition	onal method numbers, etc
idA lod.	_ 0~4'	12/2/10	0815	0-4	SOIL	X	XX		XX	X		-1	4	Laboratory to use appli		methods, unless otherwis
•	-8-125		0930	8-12,5		ΙV	Χ×		χX	V		-2	4	OWC 82	directed.	
	0-4 0000 04			8-4		1	XX	ļ	λX	$\hat{\mathbf{x}}$		- 3	4			
			1400				XX		$\hat{x} \hat{x}$			-4		( SYOC	82 10	
HA 105			1425	4.8		IX.				X			4	3) METAL	SEPA	601 Ort 470
HA104. HA 104.	_ 0-4. _ 8 · <b>13.</b> 2.'		1230	813.2		X	XX		X X X X	X X		+5 +6	4 4	(1) UPH C	irban Rav	nge, MHOEP OU HOEP CU-1 erishes
HA 103			1030	0-4		X	XX		XX	X		<b>-</b> 7	ц	1 5 EPH Cra	nges, Mi	HDEP CU-1
HA103	_4 8'		1050	4-8		×	XX		X   X	X		-8	ч	@ waste	Charact	erishes
M 103	8-	2 /	ii 10	8-12		X	K X		ΧX	X		-9	ц.	* Relate	Marty	ik spike
HA 104	8-13.2	_MSV	1310	8-13.2	<u> v</u>	LX.	4	1				-6,50		714-1-1	Sw	أحآو
Sampled and	Relinquished by	R	eceived by							LIQUID		37	TOTAU	Sampling Comments		•
Sign // Print MUTT	MENDUDION		gn will int	_del_	-								VOA Vial Amber Glass	*if metals		20x RCRA
Firm Hr		Fit	m .	,		3							Plastic Bottle	The state of the s	Market Committee of the	***************************************
Date (U				O Time	510								Preservative	IF TOT CO	230 1	ngikg, run ecessary tests
Relinquished			ceived by			- 1	1				į.		Volume	hexcr are	other vu	ecessing tests
•	Au.	Si	gn CIL	- abil		L.,	-,-	, (		SOLID			,		***********	
Print		Pr	int			×							VOA Vial			angeres come or a commence and a
Firm		Fir		,			X -			$\rightarrow$			Amber Glass	Marine San San San San San San San San San San	15	D/10133
_	O Time (	Da Da	te /2/1/	Lo Time /	50	X							Clear Glass			
Relinguished l	by	Re	ceived by			ΛCI	۸						Preservative	Evidence samples were ta	mpered with?	YES NO
Sign		Sig	gn			Wmc.	aomi-			<del>&gt;</del>			Volume	If YES, please explain in	section below.	
Print		Pri	int				-		PRES	ERVATION R	CEY					
Firm		Fir	m			A Sam	ple chilled	C N	aOH	E H <sub>2</sub> SO <sub>4</sub>		G Methanol	>			
Date	Time	Da	te	Time		B Sam	ple filtered	ρН	NO <sub>3</sub>	F HCL		H Water/Nai	HSO4 (circle)			
CD	C. I. I. D. I				Pre	sumptiv	e Certainty D	ata Pack	age (Laborat	ory to use app	licable DF	EP CAM met	hods)			
	e Certainty Data F he required minimu				CAM VIII		or will be "	lantad c-				r. D	0	Required Reporting Limi	ts and Data Qua	lity Objectives
	tatrix Spike (MS) s							ected, as	appropriate, to	meet me regui	ements of	r resumptive	certainty.	<b>X</b> RC-S1	□sı	□ GW1
	his Chain of Custo			includes			ude samples de	efined as I	Drinking Wate	r Samples.				RC-S2	□ S2	□ GW2
Ii	this Chain of Custs appropriate. Labo	ody Record ide	ntifics sample	s defined as Dri			-				lentified ar	nd analysis of	IICs are required,	□ RC-GW1 □ RC-GW2	□ S3	□ GW3
					Laboratory		CANARY - Pro							L	2.1%	

M96257: Chain of Custody
Page 1 of 1





# Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup

Final	Page 13 of 38
July 1, 2010	Revision No. 1
WSC-CAM	Exhibit VII A

# Exhibit VII A-2: MassDEP Analytical Protocol Certification Form

MassDEP Analytical Protocol Certification Form									
Laboratory Name:	Accutest Laboratori	es of New England		Project #:	M96257				
Project Location:	Former Energy Inte	rnational Parcel, MA		MADEP RTN	None				
	Former Energy International Parcel, MA  This form provides certifications for the following data set: list Laboratory Sample ID Numbers(s)  M96257-1 thrugh M96257-9								
	Groundwater/Surface Water ()	Soil/Sediment (X)	Drinking Water ()	Air ()		Other ()			
		MassDEP VPH (X)	8081 Pesticides ()	7196 Hex Cr CAM VI B	()	Mass DEP APH ()			
8270 SVOC (X			8151 Herbicides () CAM V C		()	TO-15 VOC ()			
6010 Metals ( CAM III A		8082 PCB () CAM V A		6860 Perchlorate CAM VIII B	()				
Were all sam	Responses to Questions A ples received in a condition erved (including temperature and times?	consistent with those	described on the Cha	in-of Custody,	Ye	es 🗌 No			
B protocol(s) fol	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?								
	ired corrective actions and a plemented for all identified p		•	selected CAIVI	☑ Ye	es 🗌 No			
D "Quality Assu Reporting of A	oratory report comply with all rance and Quality Control G Analytical Data"?		•	M VII A,	✓ Ye	es 🗌 No			
E a. VPH, EPH,	PH, and TO-15 only: , and APH Methods only: W s)? (Refer to the individual n		•		✓ Ye	es 🗆 No			
	O-15 Methods only: Was th				✓ Ye				
	icable CAM protocol QC and d in a laboratory narrative (in	•			⊻ Ye	es			
•	to questions G, H, and I be	•	•	nty" status					
selected CAM					∠ Ye				
and represer	ote: Data that achieve "Pre	lescribed in 310 CM	R 40.1056(2)(k) and		data usea				
	performance standards spec				☐ Ye	es V No 1			
1	reported for the complete an responses must be addres	•	•		Ye tive.	es ✓ No ¹			
I the undersigned, inquiry of those re	All Negative responses must be addressed in an attached Environmental Laboratory case narrative.  I the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.								
Signature:	from fact		Position: La	boratory Director					
Printed Name:	Reza Tand		Date:	12/22/2010					



Matrix	Aqueous 🗌	Soil 🗸	Sediment	Other			
Containers	Satisfactory <b>✓</b> B	Broken 🗌	Leaking				
Aqueous Preservative	N/A ✓ p	H <= 2 🗌	pH > 2				
Temperature	Received on Ice	Receive	ed at 4 Deg. C	Other	<b>✓</b>	Rec'd at 2.1 deg C.	
Extraction Method	SW846 3545						
	ADEP EPH REV 1.1	Client ID: Date Collected:	HA106_0-4'	La Date Rece	ab ID:	M96257-1 12/1/2010	
	ADEP EPH REV 1.1 phatic: 1-Chlorooctadecane	Date Extracted		ate Run:	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Last Date Run:	
•	omatic: o-Terphenyl	12/10/2010		3/2010		N/A	
EPH Fractionation 2-	Fluorobiphenyl	% Solids:	Low D	ilution:		High Dilution:	
Surrogate Standards. 2-	Bromonaphthalene	90.8		1		N/A	
Unadjusted Ranges	CAS#	<u>Units</u>	Result	RDL	Q		
C11-C22 Aromatics (Ur	nadj.)	ug/kg	51900 <sup>A</sup>	19000			

Adjusted Ranges			
C9-C18 Aliphatics	ug/kg	ND <sup>A</sup>	9600
C19-C36 Aliphatics	ug/kg	39800 <sup>A</sup>	9600
C11-C22 Aromatics	ug/kg	42500 <sup>c</sup>	19000
Surrogate Recoveries			Acceptance Range
1-Chlorooctadecane	%	45	40-140 %
o-Terphenyl	%	95	40-140 %
2-Fluorobiphenyl	%	84	40-140 %
2-Bromonaphthalene	%	63	40-140 %
ootnotes			

A Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

Were all QA/QC procedures REQUIRED by the EPH Method followed?

Were all performance/acceptance standards for required QA/QC procedures achieved?

Were any significant modifications made to the EPH method, as specified in Sect. 11.3?

Yes No- Details Attatched

Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature /

Postition

**Laboratory Director** 

Printed Name Reza Tand

Date

12/22/2010



C Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range. C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

Z A 'J' qualifier indicates an estimated value

Matrix	Aqueous	Soil 🗸	Sediment	Other	
Containers	Satisfactory  E	Broken 🗌	Leaking _		
Aqueous Preservative	e N/A ✓ p	H <= 2 □	pH > 2		
Temperature	Received on Ice	Receive	d at 4 Deg. C	Other 🗸	Rec'd at 2.1 deg C.
Extraction Method	SW846 3545				
Method for Ranges:	MADEP EPH REV 1.1	Client ID:	HA106_8-12.5'	Lab ID:	M96257-2
•	MADEP EPH REV 1.1	Date Collected:	12/1/2010	Date Received:	12/1/2010
EPH Surrogate Stds.	Aliphatic: 1-Chlorooctadecane	Date Extracted	: First Date	e Run:	Last Date Run:
•	Aromatic: o-Terphenyl	12/10/2010	12/14/2	2010	N/A
	2-Fluorobiphenyl	% Solids:	Low Dile	ution:	High Dilution:
Currente Ctenderde	2-Bromonaphthalene	79.7	5		N/A
Unadjusted Ranges	CAS #	<u>Units</u>	Result	<u>RDL</u> Q	
C11-C22 Aromatics (U	Jnadj.)	ug/kg	5510000 <sup>E</sup>	110000	

Adjusted Ranges			
C9-C18 Aliphatics	ug/kg	265000 <sup>E</sup>	55000
C19-C36 Aliphatics	ug/kg	4860000 <sup>E</sup>	55000
C11-C22 Aromatics	ug/kg	5300000 <sup>E</sup>	110000
Surrogate Recoveries			Acceptance Range
1-Chlorooctadecane	%	62	40-140 %
o-Terphenyl	%	167 <sup>F</sup>	40-140 %
2-Fluorobiphenyl	%	89	40-140 %
2-Bromonaphthalene	%	71	40-140 %
Footnotes			

✓ Yes □ Were all QA/QC procedures REQUIRED by the EPH Method followed? No- Details Attatched Were all performance/acceptance standards for required QA/QC procedures achieved? ☐ Yes 🗸 No- Details Attatched ✓ No 🗌 Were any significant modifications made to the EPH method, as specified in Sect. 11.3? Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtainig the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature /

**Postition** 

**Laboratory Director** 12/22/2010

**Printed Name** 

**Reza Tand** 

Date



Elevated RL due to dilution required for matrix interference.

Outside control limits due to matrix interference. Confirmed by reanalysis.

A 'J' qualifier indicates an estimated value

Matrix	Aqueous 🗌	Soil 🗸	Sediment	Other [	
Containers	Satisfactory Z E	Broken 🗌	Leaking [	]	
Aqueous Preservative	. N/A ✓ p	H <= 2 □	pH > 2		
Temperature	Received on Ice	Received	at 4 Deg. C	Other	Rec'd at 2.1 deg C.
Extraction Method	SW846 3545				
Method for Ranges:	MADEP EPH REV 1.1	Client ID: H.	A105_0-4'	Lab II	D: M96257-3
_	MADEP EPH REV 1.1	Date Collected: 12	2/1/2010	Date Receive	<b>d:</b> 12/1/2010
J	liphatic: 1-Chlorooctadecane	Date Extracted:	First Da	te Run:	Last Date Run:
_	romatic: o-Terphenyl	12/10/2010	12/14/	2010	N/A
	-Fluorobiphenyl	% Solids:	Low Di	lution:	High Dilution:
Currente Ctenderde	-Bromonaphthalene	89.1	1		N/A
Unadjusted Ranges	CAS#	Units	Result	RDL	0
Oliaujusteu Kaliges	<u>CA3 #</u>	Oilles	Vegair	KDL	<u>Q</u>
C11-C22 Aromatics (I	Inadi )	ua/ka	158000 <sup>A</sup>	19000	

Adjusted Ranges			
C9-C18 Aliphatics	ug/kg	16700 <sup>A</sup>	9600
C19-C36 Aliphatics	ug/kg	88200 <sup>A</sup>	9600
C11-C22 Aromatics	ug/kg	129000 <sup>c</sup>	19000
Surrogate Recoveries			Acceptance Range
1-Chlorooctadecane	%	41	40-140 %
o-Terphenyl	%	120	40-140 %
2-Fluorobiphenyl	%	80	40-140 %
2-Bromonaphthalene	%	74	40-140 %

#### **Footnotes**

- Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range
- Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range. C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes
- A 'J' qualifier indicates an estimated value

✓ Yes □ Were all QA/QC procedures REQUIRED by the EPH Method followed? No- Details Attatched ✓ Yes 🗌 Were all performance/acceptance standards for required QA/QC procedures achieved? No- Details Attatched Were any significant modifications made to the EPH method, as specified in Sect. 11.3? ✓ No Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature /

**Postition** 

**Laboratory Director** 

Date 12/22/2010 **Printed Name Reza Tand** 



Matrix	Aqueous	Soil ✓	Sediment	☐ Other		
Containers	Satisfactory✓	Broken 🗌	Leaking			
Aqueous Preservati	ve N/A ✓	oH <= 2 □	pH > 2			
Temperature	Received on Ice	Received a	at 4 Deg. C	Other	<b>✓</b>	Rec'd at 2.1 deg C.
Extraction Method	SW846 3545					
Method for Ranges: Method for Targets:	MADEP EPH REV 1.1	Client ID: HA1  Date Collected: 12/	_		ıb ID: eived:	M96257-4 12/1/2010
EPH Surrogate Stds.	Aliphatic: 1-Chlorooctadecane Aromatic: o-Terphenyl	12/10/2010	12/10	ate Run: 6/2010		Last Date Run: N/A
EPH Fractionation Surrogate Standards.	2-Fluorobiphenyl 2-Bromonaphthalene	<b>% Solids:</b> 84.9	Low D	Oilution: 1		High Dilution: N/A
Unadjusted Ranges	CAS #	<u>Units</u>	Result	RDL	Q	
C11-C22 Aromatics	(Unadi.)	ua/ka	ND <sup>A</sup>	21000		

ug/kg	ND <sup>A</sup>	11000
ug/kg	21800 <sup>A</sup>	11000
ug/kg	ND <sup>c</sup>	21000
		Acceptance Range
%	57	40-140 %
%	62	40-140 %
%	71	40-140 %
%	43	40-140 %
	ug/kg ug/kg % %	ug/kg 21800 <sup>^</sup> ug/kg ND <sup>^</sup> % 57 % 62 % 71

#### **Footnotes**

- Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range
- Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range. C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes
- A 'J' qualifier indicates an estimated value

✓ Yes □ Were all QA/QC procedures REQUIRED by the EPH Method followed? No- Details Attatched ✓ Yes 🗌 Were all performance/acceptance standards for required QA/QC procedures achieved? No- Details Attatched Were any significant modifications made to the EPH method, as specified in Sect. 11.3? ✓ No Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtainig the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature /

**Postition** 

**Laboratory Director** 

**Printed Name** 

**Reza Tand** 



Matrix	Aqueous 🗌	Soil 🗸	Sediment	Other			
Containers	Satisfactory <b>✓</b> B	Broken 🗌	Leaking				
Aqueous Preservative	N/A ✓ p	H <= 2 □	pH > 2				
Temperature	Received on Ice	Receive	ed at 4 Deg. C	Other	<b>✓</b>	Rec'd at 2.1 deg C.	
Extraction Method	SW846 3545						
	ADEP EPH REV 1.1 ADEP EPH REV 1.1	Client ID: Date Collected:	HA104_0-4' 12/1/2010	La Date Rece	ab ID: eived:	M96257-5 12/1/2010	
EPH Surrogate Stds. All	iphatic: 1-Chlorooctadecane	Date Extracted 12/10/2010	11131 21	ate Run: 4/2010		Last Date Run: N/A	
EPH Fractionation 2-	Fluorobiphenyl Bromonaphthalene	<b>% Solids:</b> 90.6	Low D	Oilution: 1		High Dilution: N/A	
Unadjusted Ranges	CAS#	<u>Units</u>	Result	RDL	Q		
C11-C22 Aromatics (Ur	nadj.)	ug/kg	92500 <sup>^</sup>	20000			

Adjusted Ranges			
C9-C18 Aliphatics	ug/kg	ND <sup>A</sup>	9900
C19-C36 Aliphatics	ug/kg	58900 <sup>A</sup>	9900
C11-C22 Aromatics	ug/kg	69900 <sup>c</sup>	20000
Surrogate Recoveries			Acceptance Range
1-Chlorooctadecane	%	41	40-140 %
o-Terphenyl	%	87	40-140 %
2-Fluorobiphenyl	%	95	40-140 %
2-Bromonaphthalene	%	82	40-140 %
Footnotes			

✓ Yes □ Were all QA/QC procedures REQUIRED by the EPH Method followed? No- Details Attatched ✓ Yes 🗌 Were all performance/acceptance standards for required QA/QC procedures achieved? No- Details Attatched Were any significant modifications made to the EPH method, as specified in Sect. 11.3? ✓ No Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature /

**Postition** 

**Laboratory Director** 

**Printed Name Reza Tand** 



Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

С Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range. C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

A 'J' qualifier indicates an estimated value

Matrix	Aqueous 🗌	Soil 🗸	Sediment	Other 🗌	
Containers	Satisfactory <b>✓</b> E	Broken 🗌	Leaking 🗌		
<b>Aqueous Preservative</b>	N/A ✓ p	H <= 2 □	pH > 2 □		
Temperature	Received on Ice	Receive	d at 4 Deg. C	Other 🗸	Rec'd at 2.1 deg C.
Extraction Method	SW846 3545				
Method for Ranges: M.	ADEP EPH REV 1.1	Client ID:	HA104_8-13.2'	Lab ID:	M96257-6
	ADEP EPH REV 1.1	Date Collected:	12/1/2010	Date Received:	12/1/2010
	iphatic: 1-Chlorooctadecane	Date Extracted	: First Date	Run:	Last Date Run:
Ar	omatic: o-Terphenyl	12/10/2010	12/16/20	10	N/A
	Fluorobiphenyl	% Solids:	Low Dilut	ion:	High Dilution:
Surrogate Standards. 2-	Bromonaphthalene	80.1	1		N/A
Unadjusted Ranges	CAS#	<u>Units</u>	Result	RDL Q	
C11-C22 Aromatics (Ur	nadi )	ug/kg	202000 A	22000	

Adjusted Ranges			
C9-C18 Aliphatics	ug/kg	23000 <sup>A</sup>	11000
C19-C36 Aliphatics	ug/kg	83100 <sup>A</sup>	11000
C11-C22 Aromatics	ug/kg	<b>212000</b> <sup>c</sup>	22000
Surrogate Recoveries			Acceptance Range
1-Chlorooctadecane	%	47	40-140 %
o-Terphenyl	%	122	40-140 %
2-Fluorobiphenyl	%	93	40-140 %
2-Bromonaphthalene	%	67	40-140 %

#### **Footnotes**

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- Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range. C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes
- A 'J' qualifier indicates an estimated value

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I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature /

**Postition** 

**Laboratory Director** 

**Printed Name** 

**Reza Tand** 



Aqueous 🗌	Soil 🗸	Sediment	☐ Other			
Satisfactory <b>✓</b> B	Broken 🗌	Leaking				
N/A ✓ p	H <= 2	pH > 2				
Received on Ice	Receive	ed at 4 Deg. C	Other	<b>✓</b>	Rec'd at 2.1 deg C.	
SW846 3545						
DEP EPH REV 1.1			La	ab ID:	M96257-7	
DEP EPH REV 1.1	Date Collected:	12/1/2010	Date Rece	eived:	12/1/2010	
phatic: 1-Chlorooctadecane	Date Extracte	d: First D	ate Run:		Last Date Run:	
omatic: o-Terphenyl	12/10/2010	12/1	5/2010		N/A	
Fluorobiphenyl	% Solids:	Low [	Dilution:		High Dilution:	
Bromonaphthalene	90.6		1		N/A	
CAS #	<u>Units</u>	Result	RDL	Q		
adj.)	ug/kg	167000 <sup>A</sup>	19000			
	Satisfactory P N/A P PReceived on Ice SW846 3545 DEP EPH REV 1.1 DEP EPH REV 1.1 Dehatic: 1-Chlorooctadecane Dematic: o-Terphenyl Fluorobiphenyl Bromonaphthalene CAS #	Satisfactory ✓ Broken ☐  N/A ✓ pH <= 2 ☐  Received on Ice ☐ Received  SW846 3545  DEP EPH REV 1.1 DEP EPH REV 1.1 Dehatic: 1-Chlorooctadecane omatic: o-Terphenyl Fluorobiphenyl Bromonaphthalene  CAS # Units	Satisfactory	Satisfactory	Satisfactory   Broken   Leaking	Satisfactory ✓         Broken         Leaking           N/A         ✓         pH <= 2

Adjusted Ranges			
C9-C18 Aliphatics	ug/kg	14800 A	9400
C19-C36 Aliphatics	ug/kg	85500 <sup>A</sup>	9400
C11-C22 Aromatics	ug/kg	138000 <sup>c</sup>	19000
Surrogate Recoveries			Acceptance Range
1-Chlorooctadecane	%	29 <sup>H</sup>	40-140 %
1-Chlorooctadecane o-Terphenyl	% %	29 <sup>⊩</sup> 101	40-140 % 40-140 %
o-Terphenyl	%	101	40-140 %

#### Footnotes

- A Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range
- C Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range. C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes
- H Outside control limits due to possible matrix interference. Confirmed by reanalysis.
- Z A 'J' qualifier indicates an estimated value

Were all QA/QC procedures REQUIRED by the EPH Method followed?

Were all performance/acceptance standards for required QA/QC procedures achieved?

Were any significant modifications made to the EPH method, as specified in Sect. 11.3?

Yes Von Details Attatched

Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature /

Postition

**Laboratory Director** 

Printed Name Reza Tand

Date <u>12/22/2010</u>



Aqueous	Soil 🗸	Sediment	☐ Other			
Satisfactory ✓ B	Broken 🗌	Leaking				
N/A ✓ p	H <= 2	pH > 2				
Received on Ice	Receive	ed at 4 Deg. C	Other	<b>✓</b>	Rec'd at 2.1 deg C.	
SW846 3545						
DEP EPH REV 1.1	Client ID:	HA103_4-8'	La	ab ID:	M96257-8	
DEP EPH REV 1.1	Date Collected:	12/1/2010	Date Rece	eived:	12/1/2010	
ohatic: 1-Chlorooctadecane	Date Extracte	d: First D	ate Run:		Last Date Run:	
omatic: o-Terphenyl		12/1	4/2010		N/A	
Fluorobiphenyl		Low [	Dilution:		High Dilution:	
Bromonaphthalene	81.7		1		N/A	
CAS#	Units	Result	RDL	Q		
adj.)	ug/kg	318000 <sup>A</sup>	21000			
	Satisfactory P  N/A P  Received on Ice  SW846 3545  DEP EPH REV 1.1  DEP EPH REV 1.1  Chatic: 1-Chlorooctadecane  Cas #	Satisfactory ✓ Broken ☐  N/A ✓ pH <= 2 ☐  Received on Ice ☐ Received  SW846 3545  DEP EPH REV 1.1 DEP EPH REV 1.1 Dehatic: 1-Chlorooctadecane omatic: o-Terphenyl Gluorobiphenyl Bromonaphthalene  CAS # Units	Satisfactory	Satisfactory	Satisfactory   Broken   Leaking   N/A   PH <= 2   PH > 2   Received on Ice   Received at 4 Deg. C   Other   SW846 3545  DEP EPH REV 1.1 DEP EPH REV 1.1 Dep EPH REV 1.1 Dete Collected: 12/1/2010   Date Received: Date Extracted: First Date Run: 12/10/2010   12/14/2010   Solids: Low Dilution: 81.7   1	Satisfactory

Adjusted Ranges			
C9-C18 Aliphatics	ug/kg	27500 A	11000
C19-C36 Aliphatics	ug/kg	112000 <sup>A</sup>	11000
C11-C22 Aromatics	ug/kg	<b>257000</b> <sup>c</sup>	21000
Surrogate Recoveries			Acceptance Range
1-Chlorooctadecane	%	37 <sup>G</sup>	40-140 %
1-Chlorooctadecane o-Terphenyl	% %	37 ° 107	40-140 % 40-140 %
o-Terphenyl	%	107	40-140 %

#### **Footnotes**

- A Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range
- C Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range. C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes
- G Outside control limits due to possible matrix interference. Confirmed by refractionation.
- Z A 'J' qualifier indicates an estimated value

**Printed Name** 

Were all QA/QC procedures REQUIRED by the EPH Method followed?	✓ Yes 🗌	No- Details Attatched
Were all performance/acceptance standards for required QA/QC procedures achieved?	Yes 🗸	No- Details Attatched
Were any significant modifications made to the EPH method, as specified in Sect. 11.3?	✓ No	Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature Postition Laboratory Director

Date 12/22/2010

**Reza Tand** 



Matrix	Agueous	Soil 🗸	Sediment [	Other	$\neg$	
Containers	Satisfactory ✓ E	Broken 🗌	Leaking [			
Aqueous Preservative	e N/A ☑ p	H <= 2 □	pH > 2			
Temperature	Received on Ice	Received	l at 4 Deg. C	Other	<b>✓</b>	Rec'd at 2.1 deg C.
Extraction Method	SW846 3545					
Method for Ranges:	MADEP EPH REV 1.1	Client ID: H	IA103_8-12'	La	b ID:	M96257-9
	MADEP EPH REV 1.1	Date Collected: 1	2/1/2010	Date Rece	ived:	12/1/2010
EPH Surrogate Stds.	Aliphatic: 1-Chlorooctadecane	Date Extracted:	First Dat	e Run:		Last Date Run:
_	Aromatic: o-Terphenyl	12/10/2010	12/14/	2010		N/A
	2-Fluorobiphenyl	% Solids:	Low Di	lution:		High Dilution:
Currente Ctenderde	2-Bromonaphthalene	83	1			N/A
Unadjusted Ranges	CAS#	<u>Units</u>	Result	RDL	Q	
C11-C22 Aromatics (	Inadi )	ua/ka	275000 A	21000		

Adjusted Ranges			
C9-C18 Aliphatics	ug/kg	98200 <sup>A</sup>	11000
C19-C36 Aliphatics	ug/kg	117000 <sup>A</sup>	11000
C11-C22 Aromatics	ug/kg	<b>217000</b> <sup>c</sup>	21000
Surrogate Recoveries			Acceptance Range
1-Chlorooctadecane	%	41	40-140 %
o-Terphenyl	%	122	40-140 %
2-Fluorobiphenyl	%	91	40-140 %
2-Bromonaphthalene	%	64	40-140 %

#### **Footnotes**

- Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range
- Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range. C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes
- A 'J' qualifier indicates an estimated value

✓ Yes □ Were all QA/QC procedures REQUIRED by the EPH Method followed? No- Details Attatched ✓ Yes 🗌 Were all performance/acceptance standards for required QA/QC procedures achieved? No- Details Attatched Were any significant modifications made to the EPH method, as specified in Sect. 11.3? ✓ No Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature /

**Postition** 

**Laboratory Director** 

**Printed Name Reza Tand** 



# MADED VOL EODM

	IVI <i>F</i>	ADER VEH	<u> </u>			
Matrix	Aqueous	Soil <b>✓</b>	Sediment	☐ Other		
Containers	Satisfactory <b>✓</b>	Broken	Leaking			
Aqueous Preservatives	N/A ✓	pH <= 2 □	pH > 2			
Temperature	Received on Ice	Received	l at 4 Deg. C	☐ Other	Rec'd at 2.1	deg C.
Methanol	Methanol Covering	Soil. (mL Methan	ol/g soil: 1:1	+/- 25%)		
Method for Ranges:	MADEP VPH REV 1.1	Client ID: HA	_		: M96257-1	
Method for Target Analytes:	MADEP VPH REV 1.1	Date Collected: 12/	1/2010	Date Received	: 12/1/2010	
VPH Surrogate Standards		Date Extracted:	First Da	ite Run:	Last Date I	Run:
PID: 2,5-Dibromotoluene	Э	N/A	12/7/	2010	N/A	
FID: 2,5-Dibromotoluene	Э	% Solids:	Low Di	ilution:	High Dilut	ion:
		90.8	1	1	N/A	
Unadjusted Ranges	CAS :	Elution Range	<u>Units</u>	Result	<u>RDL</u>	<u>Q</u>
C5- C8 Aliphatics (Unadj.)		N/A	ug/kg	ND <sup>A</sup>	4200	
C9- C10 Aromatics (Unadj	.)	N/A	ug/kg	ND <sup>A</sup>	4200	
C9- C12 Aliphatics (Unadj.	)	N/A	ug/kg	ND <sup>A</sup>	4200	
Adjusted Ranges						
C5- C8 Aliphatics		N/A	ug/kg	ND <sup>B</sup>	4200	
C9- C12 Aliphatics		N/A	ug/kg	ND <sup>D</sup>	4200	
Surrogate Recoveries				<u> 4</u>	Acceptance Range	<u>e</u>
FID:2,5-Dibromotoluene			%	88	70-130 %	
PID:2,5-Dibromotoluene			%	83	70-130 %	
<u>Footnotes</u>						
A Hydrocarbon Range data exclude B Hydrocarbon Range data exclude concentration of Target Analytes e				C5-C8 Aliphatic Hydroca	rbons exclude the	
D Hydrocarbon Range data exclude conc of Target Analytes eluting in	concentrations of any surrogate(			C9-C12 aliphatic Hydroca	arbons exclude	
Z A 'J' qualifier indicates an estimate	ed value					

Were all QA/QC procedures REQUIRED by the VPH Method followed?	✓ Yes □	No- Details Attatched
Were all performance/acceptance standards for required QA/QC procedures achieved?	✓ Yes □	No- Details Attatched
Were any significant modifications made to the VPH method, as specified in Sect. 11.3?	✓ No	Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature

**Postition** 

**Laboratory Director** 

**Printed Name** 

**Reza Tand** 

12/22/2010 Date



	<u> </u>	ADER VER I	<u> TURIVI</u>			
Matrix	Aqueous	Soil <b>✓</b>	Sediment	Other		
Containers	Satisfactory <	Broken 🗌	Leaking			
Aqueous Preservatives	N/A ✓	pH <= 2	pH > 2			
Temperature	Received on Ice		l at 4 Deg. C	Other	✓ Rec'd at 2.1	deg C.
Methanol	Methanol Covering	Soil. (mL Methan	ol/g soil: 1:1	+/- 25%)		
Method for Ranges:	MADEP VPH REV 1.1	Client ID: HA	_		): M96257-2	
Method for Target Analytes:	MADEP VPH REV 1.1	Date Collected: 12/	1/2010	Date Received	<b>1</b> : 12/1/2010	
VPH Surrogate Standards		Date Extracted:	First Da	te Run:	Last Date	Run:
PID: 2,5-Dibromotoluene	е	N/A	12/7/	2010	N/A	
FID: 2,5-Dibromotoluene	е	% Solids:	Low Di	lution:	High Dilu	tion:
		79.7	1		N/A	
Unadjusted Ranges	CAS #	Elution Range	<u>Units</u>	Result	RDL	<u>Q</u>
C5- C8 Aliphatics (Unadj.)		N/A	ug/kg	17100 <sup>A</sup>	6900	
C9- C10 Aromatics (Unadj	.)	N/A	ug/kg	18200 <sup>A</sup>	6900	
C9- C12 Aliphatics (Unadj.	.)	N/A	ug/kg	24500 <sup>A</sup>	6900	
Adjusted Ranges						
C5- C8 Aliphatics		N/A	ug/kg	16800 <sup>B</sup>	6900	
C9- C12 Aliphatics		N/A	ug/kg	ND <sup>□</sup>	6900	
Surrogate Recoveries				:	Acceptance Rang	<u>ıe</u>
FID:2,5-Dibromotoluene			%	128	70-130 %	
PID:2,5-Dibromotoluene			%	119	70-130 %	
<u>Footnotes</u>						
_	concentrations of any surrogate(	•	_	OF OO Alleberte Heaters	and a second section	
B Hydrocarbon Range data exclude concentration of Target Analytes 6	concentrations of any surrogate(seluting in that range.	s) and/or internal standards e	luting in that range.	U5-C8 Aliphatic Hydroc	arbons exclude the	
D Hydrocarbon Range data exclude conc of Target Analytes eluting in	concentrations of any surrogate(state that range AND concentration of the concentration of th			9-C12 aliphatic Hydroc	arbons exclude	
Z A 'J' qualifier indicates an estimate	ed value					

✓ Yes 🗌 Were all QA/QC procedures REQUIRED by the VPH Method followed? No- Details Attatched ✓ Yes 🗌 Were all performance/acceptance standards for required QA/QC procedures achieved? No- Details Attatched Were any significant modifications made to the VPH method, as specified in Sect. 11.3? ✓ No □ Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature /

**Postition** 

**Laboratory Director** 12/22/2010

**Printed Name** 

**Reza Tand** 

Date



	INIADER VEHTOKINI								
Matrix	Aqueous	Soil <b>✓</b>	Sediment	Other					
Containers	Satisfactory <b>✓</b>	Broken _	Leaking						
Aqueous Preservatives	N/A ✓	pH <= 2	pH > 2						
Temperature	Received on Ice	Received	at 4 Deg. C	Other	✓ Rec'd at 2.1	deg C.			
Methanol	Methanol Covering	Soil. (mL Methan	ol/g soil: Othe	er) NOTE: Rati	io > 1.25 to 1.				
Method for Ranges:	MADEP VPH REV 1.1	Client ID: HA1	_		: M96257-3				
Method for Target Analytes:	MADEP VPH REV 1.1	Date Collected: 12/1	1/2010	Date Received	: 12/1/2010				
VPH Surrogate Standards		Date Extracted:	First Dat	e Run:	Last Date I	Run:			
PID: 2,5-Dibromotoluene	е	N/A	12/7/2	2010	N/A				
FID: 2,5-Dibromotoluene	е	% Solids:	Low Dil	ution:	High Dilut	ion:			
		89.1	1		N/A				
Unadjusted Ranges	<u>CAS</u> :	Elution Range	<u>Units</u>	Result	<u>RDL</u>	<u>Q</u>			
C5- C8 Aliphatics (Unadj.)		N/A	ug/kg	8850 <sup>A</sup>	5300				
C9- C10 Aromatics (Unadj	.)	N/A	ug/kg	17300 <sup>A</sup>	5300				
C9- C12 Aliphatics (Unadj.	)	N/A	ug/kg	17100 <sup>A</sup>	5300				
Adjusted Ranges									
C5- C8 Aliphatics		N/A	ug/kg	8770 <sup>B</sup>	5300				
C9- C12 Aliphatics		N/A	ug/kg	ND <sup>□</sup>	5300				
Surrogate Recoveries				_	Acceptance Range	<u>e</u>			
FID:2,5-Dibromotoluene			%	122	70-130 %				
PID:2,5-Dibromotoluene			%	117	70-130 %				
<u>Footnotes</u>									
A Hydrocarbon Range data exclude				S OO Allahada Hadaaaaa	ah a a a a a a a a a a a a a a a a a a				
B Hydrocarbon Range data exclude concentration of Target Analytes 6		s) and/or internal standards e	iuting in that range. C	5-66 Alipnatic Hydroca	roons exclude the				
D Hydrocarbon Range data exclude conc of Target Analytes eluting in				9-C12 aliphatic Hydroca	rbons exclude				
Z A 'J' qualifier indicates an estimate	ed value								

Were all QA/QC procedures REQUIRED by the VPH Method followed?	✓ Yes	No- Details Attatched
Were all performance/acceptance standards for required QA/QC procedures achieved?	✓ Yes □	No- Details Attatched
Were any significant modifications made to the VPH method, as specified in Sect. 11.3?	✓ No	Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

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Postition Laboratory Director

Signature /

Printed Name Reza Tand Date 12/22/2010

117 of 221
ACCUTEST.
M96257

ABBORATORIES

	IVI <i>T</i>	ADER VEILL	OIVIN			
Matrix	Aqueous	Soil 🗸	Sediment	Other		
Containers	Satisfactory <b>✓</b>	Broken _	Leaking			
Aqueous Preservatives	N/A ✓	pH <= 2	pH > 2			
Temperature	Received on Ice	Received	at 4 Deg. C	Other •	Rec'd at 2.1 de	g C.
Methanol	Methanol Covering	Soil. (mL Methan	ol/g soil: 1:1 -	⊦/- 25%)		
Method for Ranges:	MADEP VPH REV 1.1	Client ID: HA1	_	Lab ID:	M96257-4	
Method for Target Analytes:	MADEP VPH REV 1.1	Date Collected: 12/1	/2010	Date Received:	12/1/2010	
VPH Surrogate Standards		Date Extracted:	First Dat	e Run:	Last Date Rui	n:
PID: 2,5-Dibromotoluene	Э	N/A	12/7/2	2010	N/A	
FID: 2,5-Dibromotoluene	Э	% Solids:	Low Dil	ution:	High Dilution	1:
		84.9	1		N/A	
Unadjusted Ranges	CAS:	# Elution Range	<u>Units</u>	Result	RDL 9	<u>Q</u>
C5- C8 Aliphatics (Unadj.)		N/A	ug/kg	ND <sup>A</sup>	6300	
C9- C10 Aromatics (Unadj.	.)	N/A	ug/kg	8360 <sup>A</sup>	6300	
C9- C12 Aliphatics (Unadj.	)	N/A	ug/kg	8370 <sup>A</sup>	6300	
Adjusted Ranges						
C5- C8 Aliphatics		N/A	ug/kg	ND <sup>B</sup>	6300	
C9- C12 Aliphatics		N/A	ug/kg	ND <sup>D</sup>	6300	
Surrogate Recoveries				<u>A</u>	cceptance Range	
FID:2,5-Dibromotoluene			%	119	70-130 %	
PID:2,5-Dibromotoluene			%	114	70-130 %	
<u>Footnotes</u>						
A Hydrocarbon Range data exclude	concentrations of any surrogate(	s) and/or internal standards e	luting in that range			
B Hydrocarbon Range data exclude concentration of Target Analytes e		s) and/or internal standards e	luting in that range. C	5-C8 Aliphatic Hydrocar	bons exclude the	
D Hydrocarbon Range data exclude conc of Target Analytes eluting in				9-C12 aliphatic Hydrocar	bons exclude	
Z A 'J' qualifier indicates an estimate	ed value					

Were all QA/QC procedures REQUIRED by the VPH Method followed?	✓ Yes □	No- Details Attatched
Were all performance/acceptance standards for required QA/QC procedures achieved?	✓ Yes	No- Details Attatched
Were any significant modifications made to the VPH method, as specified in Sect. 11.3?	✓ No	Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature / /

Postition

**Laboratory Director** 

**Printed Name** 

**Reza Tand** 

Date

<u>12/22/2010</u>



INADEI VIIII ONNI								
Matrix	Aqueous	Soil <b>✓</b>	Sediment	Other				
Containers	Satisfactory <b>✓</b>	Broken _	Leaking					
Aqueous Preservatives	N/A ✓	pH <= 2	pH > 2					
Temperature	Received on Ice	Received	l at 4 Deg. C	Other •	Rec'd at 2.1 deg C.			
Methanol	Methanol Covering	Soil. (mL Methan	ol/g soil: Oth	er) NOTE: Ratio	o > 1.25 to 1.			
Method for Ranges:	MADEP VPH REV 1.1	Client ID: HA	_		M96257-5			
Method for Target Analytes:	MADEP VPH REV 1.1	Date Collected: 12/	1/2010	Date Received:	12/1/2010			
VPH Surrogate Standards		Date Extracted:	First Dat	e Run:	Last Date Run:			
PID: 2,5-Dibromotoluene	Э	N/A	12/8/2	2010	N/A			
FID: 2,5-Dibromotoluene	е	% Solids:	Low Dil	ution:	High Dilution:			
		90.6	1		N/A			
Unadjusted Ranges	<u>CAS</u> :	Elution Range	<u>Units</u>	Result	RDL Q			
C5- C8 Aliphatics (Unadj.)		N/A	ug/kg	ND <sup>A</sup>	5100			
C9- C10 Aromatics (Unadj.	.)	N/A	ug/kg	ND <sup>A</sup>	5100			
C9- C12 Aliphatics (Unadj.	)	N/A	ug/kg	ND <sup>A</sup>	5100			
Adjusted Ranges								
C5- C8 Aliphatics		N/A	ug/kg	ND <sup>B</sup>	5100			
C9- C12 Aliphatics		N/A	ug/kg	ND <sup>□</sup>	5100			
Surrogate Recoveries				Ac	cceptance Range			
FID:2,5-Dibromotoluene			%	122	70-130 %			
PID:2,5-Dibromotoluene			%	116	70-130 %			
<u>Footnotes</u>								
A Hydrocarbon Range data exclude B Hydrocarbon Range data exclude concentration of Target Analytes e	concentrations of any surrogate(	•		5-C8 Aliphatic Hydrocart	oons exclude the			
D Hydrocarbon Range data exclude conc of Target Analytes eluting in				9-C12 aliphatic Hydrocarl	bons exclude			

Were all QA/QC procedures REQUIRED by the VPH Method followed?

Were all performance/acceptance standards for required QA/QC procedures achieved?

Were any significant modifications made to the VPH method, as specified in Sect. 11.3?

No- Details Attatched

No- Details Attatched

Ves- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature / /

Postition

**Laboratory Director** 

**Printed Name** 

Reza Tand

Date <u>12/22/2010</u>



Z A 'J' qualifier indicates an estimated value

# MADED VOH EODM

	INIADLE VEHI ONIN								
Matrix	Aqueous	Soil 🗸	Sediment [	Other					
Containers	Satisfactory <b>✓</b>	Broken _	Leaking						
Aqueous Preservatives	N/A ✓	pH <= 2	pH > 2						
Temperature	Received on Ice	Received	at 4 Deg. C	Other •	Rec'd at 2.1 deg C.				
Methanol	Methanol Covering	Soil. (mL Methan	ol/g soil: 1:1 +	·/- 25%)					
Method for Ranges:	MADEP VPH REV 1.1	Client ID: HA1	04_8-13.2'	Lab ID:	M96257-6				
Method for Target Analytes:	MADEP VPH REV 1.1	Date Collected: 12/1	/2010	Date Received:	12/1/2010				
VPH Surrogate Standards		Date Extracted:	First Date	e Run:	Last Date Run:				
PID: 2,5-Dibromotoluen	e	N/A	12/8/2		N/A				
FID: 2,5-Dibromotoluen	e	% Solids:	Low Dile	ution:	High Dilution:				
		80.1	1		N/A				
Unadjusted Ranges	CAS:	# Elution Range	Units	Result	RDL Q				
Onaujusteu Kanges	CAS	Elution Kange	Onits	Result	<u>RDL</u> <u>Q</u>				
C5- C8 Aliphatics (Unadj.)		N/A	ug/kg	ND <sup>A</sup>	7800				
C9- C10 Aromatics (Unadj	.)	N/A	ug/kg	ND <sup>A</sup>	7800				
C9- C12 Aliphatics (Unadj.	.)	N/A	ug/kg	ND <sup>a</sup>	7800				
Adjusted Ranges									
C5- C8 Aliphatics		N/A	ug/kg	ND <sup>B</sup>	7800				
C9- C12 Aliphatics		N/A	ug/kg	ND D	7800				
Surrogate Recoveries				A	cceptance Range				
FID:2,5-Dibromotoluene			%	126	70-130 %				
PID:2,5-Dibromotoluene			%	119	70-130 %				
Footnotes									
B Hydrocarbon Range data exclude	concentrations of any surrogate( concentrations of any surrogate(			5-C8 Aliphatic Hydrocarl	oons exclude the				
D Hydrocarbon Range data exclude conc of Target Analytes (	concentrations of any surrogate(			-C12 aliphatic Hydrocar	bons exclude				
Z A 'J' qualifier indicates an estimat	<del>-</del>								

✓ Yes □ Were all QA/QC procedures REQUIRED by the VPH Method followed? No- Details Attatched ✓ Yes Were all performance/acceptance standards for required QA/QC procedures achieved? No- Details Attatched ✓ No □ Were any significant modifications made to the VPH method, as specified in Sect. 11.3? Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature /

**Postition** 

**Laboratory Director** 

**Printed Name** 

**Reza Tand** 

12/22/2010 Date



# MADED VOL EODM

	IVI <i>F</i>	ADER VEN				
Matrix	Aqueous	Soil <b>✓</b>	Sediment	Other		
Containers	Satisfactory <	Broken	Leaking			
Aqueous Preservatives	N/A ✓	pH <= 2	pH > 2			
Temperature	Received on Ice	Received	at 4 Deg. C	Other •	✓ Rec'd at 2.1	deg C.
Methanol	Methanol Covering	Soil. (mL Methar	ol/g soil: 1:1 -	<b>⊦/- 25%)</b>		
Method for Ranges:	MADEP VPH REV 1.1	Client ID: HA	_		M96257-7	
Method for Target Analytes:	MADEP VPH REV 1.1	Date Collected: 12/	1/2010	Date Received:	: 12/1/2010	
VPH Surrogate Standards		Date Extracted:	First Dat	e Run:	Last Date I	Run:
PID: 2,5-Dibromotoluene	Э	N/A	12/8/2	2010	N/A	
FID: 2,5-Dibromotoluene	Э	% Solids:	Low Dil	ution:	High Dilut	ion:
		90.6	1		N/A	
Unadjusted Ranges	CAS #	Elution Range	<u>Units</u>	Result	<u>RDL</u>	<u>Q</u>
C5- C8 Aliphatics (Unadj.)		N/A	ug/kg	ND <sup>A</sup>	5700	
C9- C10 Aromatics (Unadj	.)	N/A	ug/kg	ND <sup>A</sup>	5700	
C9- C12 Aliphatics (Unadj.	)	N/A	ug/kg	ND <sup>A</sup>	5700	
Adjusted Ranges						
C5- C8 Aliphatics		N/A	ug/kg	ND <sup>B</sup>	5700	
C9- C12 Aliphatics		N/A	ug/kg	ND <sup>□</sup>	5700	
Surrogate Recoveries				<u>A</u>	Acceptance Range	<u> </u>
FID:2,5-Dibromotoluene			%	107	70-130 %	
PID:2,5-Dibromotoluene			%	100	70-130 %	
<u>Footnotes</u>						
_ =	concentrations of any surrogate(seconcentrations of any surrogate(seconcentrations)		-	5-C8 Aliphatic Hydroca	rhone exclude the	
concentration of Target Analytes		s) anu/or internal standards 6	numg in that range. C	5-Co Aliphatic Hydrocar	nons exclude the	
D Hydrocarbon Range data exclude conc of Target Analytes eluting in	concentrations of any surrogate(sthat range AND concentration of G			9-C12 aliphatic Hydroca	rbons exclude	
Z A 'J' qualifier indicates an estimate	ed value					

Were all QA/QC procedures REQUIRED by the VPH Method followed?	✓ Yes □	No- Details Attatched
Were all performance/acceptance standards for required QA/QC procedures achieved?	✓ Yes 🗌	No- Details Attatched
Were any significant modifications made to the VPH method, as specified in Sect. 11.3?	✓ No	Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature /

**Postition** 

**Laboratory Director** 

**Printed Name** 

Reza Tand

12/22/2010 Date



# MADED VOH EODM

	INIADER VEH LOKIVI							
Matrix	Aqueous	Soil <b>✓</b>	Sediment	☐ Other				
Containers	Satisfactory <b>✓</b>	Broken _	Leaking					
<b>Aqueous Preservatives</b>	N/A ✓	pH <= 2	pH > 2					
Temperature	Received on Ice	Received	l at 4 Deg. C	☐ Other	Rec'd at 2.1	deg C.		
Methanol	Methanol Covering	Soil. (mL Methan	ol/g soil: 1:1	+/- 25%)				
Method for Ranges:	MADEP VPH REV 1.1	Client ID: HA	_		: M96257-8			
Method for Target Analytes:	MADEP VPH REV 1.1	Date Collected: 12/	1/2010	Date Received	: 12/1/2010			
VPH Surrogate Standards		Date Extracted:	First Da	te Run:	Last Date	Run:		
PID: 2,5-Dibromotoluene	е	N/A	12/8/	2010	N/A			
FID: 2,5-Dibromotoluene	е	% Solids:	Low Di	lution:	High Dilut	tion:		
		81.7	1		N/A			
Unadjusted Ranges	CAS	Elution Range	<u>Units</u>	Result	<u>RDL</u>	<u>Q</u>		
C5- C8 Aliphatics (Unadj.)		N/A	ug/kg	ND <sup>A</sup>	8500			
C9- C10 Aromatics (Unadj	.)	N/A	ug/kg	ND <sup>A</sup>	8500			
C9- C12 Aliphatics (Unadj.	)	N/A	ug/kg	12600 <sup>A</sup>	8500			
Adjusted Ranges								
C5- C8 Aliphatics		N/A	ug/kg	ND <sup>B</sup>	8500			
C9- C12 Aliphatics		N/A	ug/kg	ND <sup>D</sup>	8500			
Surrogate Recoveries				<u> </u>	Acceptance Rang	<u>e</u>		
FID:2,5-Dibromotoluene			%	109	70-130 %			
PID:2,5-Dibromotoluene			%	96	70-130 %			
<u>Footnotes</u>								
,	concentrations of any surrogate(seconcentrations of any surrogate(seconcentrations of any surrogate(seconcentrations)	•		C5-C8 Aliphatic Hydroca	rbons exclude the			
• •	concentrations of any surrogate(			C9-C12 aliphatic Hydroca	arbons exclude			
L								

✓ Yes □ Were all QA/QC procedures REQUIRED by the VPH Method followed? No- Details Attatched ✓ Yes Were all performance/acceptance standards for required QA/QC procedures achieved? No- Details Attatched Were any significant modifications made to the VPH method, as specified in Sect. 11.3? ✓ No □ Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature / /

**Postition** 

**Laboratory Director** 

**Printed Name** 

**Reza Tand** 

Date

12/22/2010



WADEL VITTORW							
Matrix	Aqueous	Soil <b>✓</b>	Sediment	☐ Other [			
Containers	Satisfactory <b>✓</b>	Broken _	Leaking				
Aqueous Preservatives	N/A ✓	pH <= 2	pH > 2				
Temperature	Received on Ice	Received	l at 4 Deg. C	Other •	Rec'd at 2.1 deg C.		
Methanol	Methanol Covering	Soil. (mL Methan	ol/g soil: Oth	er) NOTE: Rati	o > 1.25 to 1.		
Method for Ranges:	MADEP VPH REV 1.1	Client ID: HA	103_8-12'	Lab ID:	M96257-9		
Method for Target Analytes:	MADEP VPH REV 1.1	Date Collected: 12/	1/2010	Date Received:	: 12/1/2010		
VPH Surrogate Standards		Date Extracted:	First Da	te Run:	Last Date Run:		
PID: 2,5-Dibromotoluene	e	N/A	12/8/	2010	N/A		
FID: 2,5-Dibromotoluene	•	% Solids:	Low Di	lution:	High Dilution:		
		83	1		N/A		
Unadjusted Ranges	CAS:	Elution Range	<u>Units</u>	Result	RDL Q		
C5- C8 Aliphatics (Unadj.)		N/A	ug/kg	ND <sup>A</sup>	5900		
C9- C10 Aromatics (Unadj.	)	N/A	ug/kg	19300 <sup>A</sup>	5900		
C9- C12 Aliphatics (Unadj.	)	N/A	ug/kg	33200 <sup>A</sup>	5900		
Adjusted Ranges							
C5- C8 Aliphatics		N/A	ug/kg	ND <sup>B</sup>	5900		
C9- C12 Aliphatics		N/A	ug/kg	13900 <sup>D</sup>	5900		
Surrogate Recoveries				<u>A</u>	cceptance Range		
FID:2,5-Dibromotoluene			%	128	70-130 %		
PID:2,5-Dibromotoluene			%	124	70-130 %		
<u>Footnotes</u>							
A Hydrocarbon Range data exclude B Hydrocarbon Range data exclude concentration of Target Analytes e	concentrations of any surrogate(	•		C5-C8 Aliphatic Hydrocar	bons exclude the		
D Hydrocarbon Range data exclude conc of Target Analytes eluting in				9-C12 aliphatic Hydroca	bons exclude		

Were all QA/QC procedures REQUIRED by the VPH Method followed?

Were all performance/acceptance standards for required QA/QC procedures achieved?

Were any significant modifications made to the VPH method, as specified in Sect. 11.3?

Who Details Attatched

Yes Details Attatched

Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature / /

Postition

**Laboratory Director** 

**Printed Name** 

Reza Tand

Date

12/22/2010



Z A 'J' qualifier indicates an estimated value

# **Internal Sample Tracking Chronicle**

Haley & Aldrich

Job No: M96257

Former Energy International Parcel, MA Project No: 06318-502

Sample Number	Method	Analyzed	Ву	Prepped	Ву	Test Codes
M96257-1		08:15 By: MD	Receiv	ved: 01-DEC	-10 By	: JB
HA106_0-4	!					
M96257-1	SW846 6010C	02-DEC-10 22:19	DA	02-DEC-10	EM	AG, AS, BA, BE, CD, CR, NI, PB, S. SE, TL, V, ZN
M96257-1	ASTM D1498-76M	03-DEC-10	MC			ЕН
M96257-1	SM21 2540 B MOD.	03-DEC-10	HS			% SOL
M96257-1	SW846 CHAP7	03-DEC-10	MA			CORR
M96257-1	SW846 7471A	03-DEC-10 15:49	PY	03-DEC-10	EM	HG
M96257-1	SW846 8260B	07-DEC-10 20:48	GK			V8260MCP
M96257-1	MADEP VPH REV 1.	107-DEC-10 21:45	WS			VMAVPHR
M96257-1	SW846 CHAP7	08-DEC-10	BF	08-DEC-10	BF	CREAC,SREAC
M96257-1	SW846 CHAP7	08-DEC-10	BF	08-DEC-10	BF	CREAC,SREAC
M96257-1	SW846 1020	08-DEC-10	BF			IGN
M96257-1	SW846 8270C	13-DEC-10 17:10	PR	06-DEC-10	MEW	AB8270MCP
M96257-1	MADEP EPH REV 1.	1 13-DEC-10 19:13	JD	10-DEC-10	AF	BMAEPHR
M96257-2 HA106_8-1	Collected: 01-DEC-10 2.5'	09:30 By: MD	Receiv	ved: 01-DEC-	-10 By	: JB
M96257-2	SW846 6010C	02-DEC-10 22:23	DA	02-DEC-10	EM	AG, AS, BA, BE, CD, CR, NI, PB, S SE, TL, V, ZN
M96257-2	ASTM D1498-76M	03-DEC-10	MC			EH
M96257-2	SM21 2540 B MOD.	03-DEC-10	HS			% SOL
M96257-2	SW846 CHAP7	03-DEC-10	MA			CORR
	SW846 7471A	03-DEC-10 16:34		03-DEC-10	EM	HG
	MADEP VPH REV 1.	107-DEC-10 22:24				VMAVPHR
	SW846 8260B	07-DEC-10 23:31				V8260MCP
	SW846 CHAP7	08-DEC-10	BF	08-DEC-10	BF	CREAC,SREAC
	SW846 1020	08-DEC-10	BF			IGN
	SW846 CHAP7	08-DEC-10	BF	08-DEC-10	BF	CREAC, SREAC
	SW846 8260B	09-DEC-10 23:01				V8260MCP
	SW846 8270C	13-DEC-10 17:39				AB8270MCP
M96257-2	MADEP EPH REV 1.1	1 14-DEC-10 11:37	JD	10-DEC-10	AF	BMAEPHR
M96257-3 HA105_0-4	Collected: 01-DEC-10	14:00 By: MD	Receiv	ved: 01-DEC	-10 By	: ЈВ
M96257-3	SW846 6010C	02-DEC-10 22:28	DA	02-DEC-10	EM	AG,AS,BA,BE,CD,CR,NI,PB,S SE,TL,V,ZN



# **Internal Sample Tracking Chronicle**

Haley & Aldrich

Job No: M96257

Former Energy International Parcel, MA Project No: 06318-502

Sample Number	Method	Analyzed	Ву	Prepped	Ву	Test Codes
M96257-3	ASTM D1498-76M	03-DEC-10	MC			ЕН
M96257-3	SM21 2540 B MOD.	03-DEC-10	HS			% SOL
M96257-3	SW846 CHAP7	03-DEC-10	MA			CORR
M96257-3	SW846 7471A	03-DEC-10 16:37	PY	03-DEC-10	EM	HG
M96257-3	SW846 8260B	07-DEC-10 22:37	GK			V8260MCP
M96257-3	MADEP VPH REV 1.	107-DEC-10 23:04	WS			VMAVPHR
M96257-3	SW846 CHAP7	08-DEC-10	BF	08-DEC-10	BF	CREAC, SREAC
	SW846 CHAP7	08-DEC-10	BF	08-DEC-10	BF	CREAC, SREAC
M96257-3	SW846 1020	08-DEC-10	BF			IGN
	SW846 8270C	13-DEC-10 18:07		06-DEC-10	MEW	AB8270MCP
M96257-3	MADEP EPH REV 1.	1 14-DEC-10 00:41	JD	10-DEC-10	AF	BMAEPHR
M96257-4 HA105_4-8		14:25 By: MD	Recei	ved: 01-DEC-	-10 By	: JB
M96257-4	SW846 6010C	02-DEC-10 22:32	DA	02-DEC-10	EM	AG, AS, BA, BE, CD, CR, NI, PB, SE, SE, TL, V, ZN
M96257-4	ASTM D1498-76M	03-DEC-10	MC			ЕН
M96257-4	SM21 2540 B MOD.	03-DEC-10	HS			%SOL
M96257-4	SW846 CHAP7	03-DEC-10	MA			CORR
M96257-4	SW846 7471A	03-DEC-10 15:56	PY	03-DEC-10	EM	HG
M96257-4	SW846 8260B	07-DEC-10 21:15	GK			V8260MCP
M96257-4	MADEP VPH REV 1.					VMAVPHR
M96257-4	SW846 CHAP7	08-DEC-10	BF	08-DEC-10	BF	CREAC, SREAC
M96257-4	SW846 1020	08-DEC-10	BF			IGN
M96257-4	SW846 CHAP7	08-DEC-10	BF	08-DEC-10	BF	CREAC, SREAC
M96257-4	SW846 8270C	13-DEC-10 18:36	PR	06-DEC-10	MEW	AB8270MCP
M96257-4	MADEP EPH REV 1.	1 16-DEC-10 00:13	JD	10-DEC-10	AF	BMAEPHR
M96257-5 HA104_0-4	Collected: 01-DEC-10	12:30 By: MD	Recei	ved: 01-DEC-	-10 By	: ЈВ
M96257-5	SW846 6010C	02-DEC-10 22:36	DA	02-DEC-10	EM	AG, AS, BA, BE, CD, CR, NI, PB, SE, TL, V, ZN
M96257-5	ASTM D1498-76M	03-DEC-10	MC			EH
M96257-5		03-DEC-10	HS			%SOL
	SW846 CHAP7	03-DEC-10	MA			CORR
	SW846 7471A	03-DEC-10 15:58		03-DEC-10	EM	HG
	SW846 8260B	07-DEC-10 22:10	GK	50 220 10		V8260MCP
V1907.17-1			J12			, 02001/101



# **Internal Sample Tracking Chronicle**

Haley & Aldrich

Job No: M96257

Former Energy International Parcel, MA Project No: 06318-502

Sample Number	Method	Analyzed	Ву	Prepped	Ву	Test Codes
Nullibei	Method	Anaryzeu	Бу	Ттеррец	Бу	Test Codes
M96257-5		08-DEC-10	BF	08-DEC-10	BF	CREAC,SREAC
M96257-5		08-DEC-10	BF			IGN
M96257-5	MADEP VPH REV 1.1		WS			VMAVPHR
M96257-5		13-DEC-10 19:05				AB8270MCP
M96257-5	MADEP EPH REV 1.1	14-DEC-10 08:35	JD	10-DEC-10	AF	BMAEPHR
	Collected: 01-DEC-10	13:05 By: MD	Receiv	ved: 01-DEC-	-10 By	: ЈВ
HA104_8-1	3.2'					
M96257-6	ASTM D1498-76M	03-DEC-10	MC			ЕН
M96257-6	SM21 2540 B MOD.	03-DEC-10	HS			% SOL
M96257-6	SW846 CHAP7	03-DEC-10	MA			CORR
M96257-6	SW846 6010C	06-DEC-10 20:32	DA	06-DEC-10	EM	AG, AS, BA, BE, CD, CR, NI, PB, S SE, TL, V, ZN
M96257-6	SW846 CHAP7	08-DEC-10	BF	08-DEC-10	BF	CREAC, SREAC
	SW846 CHAP7	08-DEC-10	BF	08-DEC-10		CREAC,SREAC
	SW846 1020	08-DEC-10	BF			IGN
	MADEP VPH REV 1.1		WS			VMAVPHR
	SW846 7471A	08-DEC-10 14:05		07-DEC-10	EM	HG
	SW846 8260B	09-DEC-10 18:03	GK			V8260MCP
	SW846 8270C	13-DEC-10 19:33	PR	06-DEC-10	MEW	AB8270MCP
	MADEP EPH REV 1.1		JD	10-DEC-10		BMAEPHR
	Collected: 01-DEC-10	10:30 By: MD	Receiv	ved: 01-DEC-	-10 By	: JB
HA103_0-4	!					
M96257-7	SW846 6010C	02-DEC-10 22:45	DA	02-DEC-10	EM	AG, AS, BA, BE, CD, CR, NI, PB, S SE, TL, V, ZN
M96257-7	ASTM D1498-76M	03-DEC-10	MC			ЕН
M96257-7	SM21 2540 B MOD.	03-DEC-10	HS			% SOL
M96257-7	SW846 CHAP7	03-DEC-10	MA			CORR
M96257-7		03-DEC-10 16:05	PY	03-DEC-10	EM	HG
M96257-7	SW846 8260B	07-DEC-10 21:43	GK		-	V8260MCP
M96257-7	SW846 CHAP7	08-DEC-10	BF	08-DEC-10	BF	CREAC,SREAC
M96257-7	SW846 CHAP7	08-DEC-10	BF	08-DEC-10		CREAC,SREAC
M96257-7		08-DEC-10	BF			IGN
M96257-7			WS			VMAVPHR
M96257-7		13-DEC-10 20:02		06-DEC-10	MEW	AB8270MCP
M96257-7	MADEP EPH REV 1.1			10-DEC-10		BMAEPHR

# **Internal Sample Tracking Chronicle**

Haley & Aldrich

Job No: M96257

Former Energy International Parcel, MA Project No: 06318-502

Sample Number	Method	Analyzed	Ву	Prepped	Ву	Test Codes
M96257-8 HA103_4-8	Collected: 01-DEC-10	10:50 By: MD	Recei	ved: 01-DEC	-10 By	: JB
M96257-8	SW846 6010C	02-DEC-10 22:50	DA	02-DEC-10	EM	AG,AS,BA,BE,CD,CR,NI,PB,S
M0/257 0	A CTM D 1 400 7 CM	02 DEC 10	MC			SE,TL,V,ZN
M96257-8 M96257-8	ASTM D1498-76M SM21 2540 B MOD.	03-DEC-10 03-DEC-10	MC HS			EH % SOL
M96257-8		03-DEC-10 03-DEC-10	пs MA			CORR
M96257-8		03-DEC-10 03-DEC-10 16:07	PY	03-DEC-10	EM	HG
M96257-8		08-DEC-10 10.07	BF	03-DEC-10 08-DEC-10		CREAC, SREAC
M96257-8		08-DEC-10 08-DEC-10	BF	08-DEC-10 08-DEC-10		CREAC, SREAC
	SW846 1020	08-DEC-10 08-DEC-10	BF	06-DEC-10	DI	IGN
	MADEP VPH REV 1.		WS			VMAVPHR
	SW846 8260B	09-DEC-10 02:22	GK			V8260MCP
	SW846 8270C	13-DEC-10 20:31	PR	06-DEC-10	MEW	AB8270MCP
	MADEP EPH REV 1.1		JD	10-DEC-10		BMAEPHR
M96257-9 HA103_8-1	Collected: 01-DEC-10 2'	11:10 By: MD	Receiv	ved: 01-DEC	-10 By	: ЈВ
M96257-9	SW846 6010C	02-DEC-10 22:54	DA	02-DEC-10	EM	AG, AS, BA, BE, CD, CR, NI, PB, S TL, V, ZN
M96257-9	ASTM D1498-76M	03-DEC-10	MC			EH
M96257-9		03-DEC-10	HS			% SOL
M96257-9		03-DEC-10	MA			CORR
M96257-9		03-DEC-10 13:17	DA	02-DEC-10	EM	SB
M96257-9		03-DEC-10 16:39	PY	03-DEC-10	EM	HG
M96257-9		08-DEC-10	BF	08-DEC-10	BF	CREAC, SREAC
M96257-9	SW846 CHAP7	08-DEC-10	BF	08-DEC-10	BF	CREAC, SREAC
M96257-9	SW846 1020	08-DEC-10	BF			IGN
M96257-9	MADEP VPH REV 1.	108-DEC-10 03:02	WS			VMAVPHR
M96257-9	SW846 8260B	09-DEC-10 15:48	GK			V8260MCP
M96257-9	SW846 8270C	13-DEC-10 21:00	PR	06-DEC-10	MEW	AB8270MCP
M96257-9	MADEP EPH REV 1.1	1 14-DEC-10 01:54	JD	10-DEC-10	AF	BMAEPHR
M96257-1 <i>A</i> HA106_0-4	A Collected: 01-DEC-10	08:15 By: MD	Receiv	ved: 01-DEC	-10 By	: JB
M96257-1A	A SW846 6010C	07-DEC-10 21:46	DA	07-DEC-10	EM	EPB



# **Internal Sample Tracking Chronicle**

Haley & Aldrich

Job No: M96257

Former Energy International Parcel, MA Project No: 06318-502

Sample Number	Method	Analyzed	Ву	Prepped	Ву	Test Codes
M96257-2A HA106_8-1	Collected: 01-DEC-10 (2.5)	09:30 By: MD	Receiv	ed: 01-DEC-	10 By:	JB
M96257-2A	SW846 6010C	07-DEC-10 21:50	DA	07-DEC-10	EM	EPB
M96257-3A HA105_0-4	Collected: 01-DEC-10	14:00 By: MD	Receiv	ed: 01-DEC-	10 By:	JB
M96257-3A	SW846 6010C	07-DEC-10 21:55	DA	07-DEC-10	EM	EPB
M96257-4A HA105_4-8	Collected: 01-DEC-10	14:25 By: MD	Receiv	ed: 01-DEC-	10 By:	JB
M96257-4A	. SW846 6010C	07-DEC-10 21:59	DA	07-DEC-10	EM	EPB
M96257-5A HA104_0-4	Collected: 01-DEC-10	12:30 By: MD	Receiv	ed: 01-DEC-	10 By:	JB
M96257-5A	SW846 6010C	07-DEC-10 22:04	DA	07-DEC-10	EM	EPB
M96257-6A HA104_8-1	Collected: 01-DEC-10 3.2'	13:05 By: MD	Receiv	ed: 01-DEC-	10 By:	JB
M96257-6A	SW846 6010C	07-DEC-10 22:08	DA	07-DEC-10	EM	EPB
M96257-7A HA103_0-4	Collected: 01-DEC-10	10:30 By: MD	Receiv	ed: 01-DEC-	10 By:	JB
M96257-7A	SW846 6010C	07-DEC-10 22:13	DA	07-DEC-10	EM	EPB
M96257-8A HA103_4-8	Collected: 01-DEC-10	10:50 By: MD	Receiv	ed: 01-DEC-	10 By:	JB
M96257-8A	SW846 6010C	07-DEC-10 22:17	DA	07-DEC-10	EM	ЕРВ
M96257-9A HA103_8-1	Collected: 01-DEC-10 2'	11:10 By: MD	Receiv	ed: 01-DEC-	10 By:	JB
M96257-9A	SW846 6010C	07-DEC-10 22:22	DA	07-DEC-10	EM	EPB





### GC/MS Volatiles

QC Data Summaries

### Includes the following where applicable:

- · Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries



### **Method Blank Summary**

Job Number: M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
MSR663-MB	R18611A.D	1	12/07/10	GK	n/a	n/a	MSR663

### The QC reported here applies to the following samples:

CAS No.	Compound	Result	RL	Units Q
67-64-1	Acetone	ND	250	ug/kg
71-43-2	Benzene	ND	25	ug/kg
108-86-1	Bromobenzene	ND	250	ug/kg
74-97-5	Bromochloromethane	ND	250	ug/kg
75-27-4	Bromodichloromethane	ND	100	ug/kg
75-25-2	Bromoform	ND	100	ug/kg
74-83-9	Bromomethane	ND	100	ug/kg
78-93-3	2-Butanone (MEK)	ND	250	ug/kg
104-51-8	n-Butylbenzene	ND	250	ug/kg
135-98-8	sec-Butylbenzene	ND	250	ug/kg
98-06-6	tert-Butylbenzene	ND	250	ug/kg
75-15-0	Carbon disulfide	ND	250	ug/kg
56-23-5	Carbon tetrachloride	ND	100	ug/kg
108-90-7	Chlorobenzene	ND	100	ug/kg
75-00-3	Chloroethane	ND	250	ug/kg
67-66-3	Chloroform	ND	100	ug/kg
74-87-3	Chloromethane	ND	250	ug/kg
95-49-8	o-Chlorotoluene	ND	250	ug/kg
106-43-4	p-Chlorotoluene	ND	250	ug/kg
108-20-3	Di-Isopropyl ether	ND	100	ug/kg
96-12-8	1,2-Dibromo-3-chloropropane	ND	250	ug/kg
124-48-1	Dibromochloromethane	ND	100	ug/kg
106-93-4	1,2-Dibromoethane	ND	100	ug/kg
95-50-1	1,2-Dichlorobenzene	ND	100	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	100	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	100	ug/kg
75-71-8	Dichlorodifluoromethane	ND	100	ug/kg
75-34-3	1,1-Dichloroethane	ND	100	ug/kg
107-06-2	1,2-Dichloroethane	ND	100	ug/kg
75-35-4	1,1-Dichloroethene	ND	100	ug/kg
156-59-2	cis-1,2-Dichloroethene	ND	100	ug/kg
156-60-5	trans-1,2-Dichloroethene	ND	100	ug/kg
78-87-5	1,2-Dichloropropane	ND	100	ug/kg
142-28-9	1,3-Dichloropropane	ND	250	ug/kg
594-20-7	2,2-Dichloropropane	ND	250	ug/kg
563-58-6	1,1-Dichloropropene	ND	250	ug/kg



### **Method Blank Summary**

Job Number: M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	<b>Analytical Batch</b>
MSR663-MB	R18611A.D	1	12/07/10	GK	n/a	n/a	MSR663

### The QC reported here applies to the following samples:

CAS No.	Compound	Result	RL	Units Q
10061-01-5	cis-1,3-Dichloropropene	ND	100	ug/kg
	trans-1,3-Dichloropropene	ND	100	ug/kg
123-91-1	1,4-Dioxane	ND	1300	ug/kg
60-29-7	Ethyl Ether	ND	250	ug/kg
100-41-4	Ethylbenzene	ND	100	ug/kg
87-68-3	Hexachlorobutadiene	ND	250	ug/kg
591-78-6	2-Hexanone	ND	250	ug/kg
98-82-8	Isopropylbenzene	ND	250	ug/kg
99-87-6	p-Isopropyltoluene	ND	250	ug/kg
1634-04-4	Methyl Tert Butyl Ether	ND	100	ug/kg
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	250	ug/kg
74-95-3	Methylene bromide	ND	250	ug/kg
75-09-2	Methylene chloride	ND	100	ug/kg
91-20-3	Naphthalene	ND	250	ug/kg
103-65-1	n-Propylbenzene	ND	250	ug/kg
100-42-5	Styrene	ND	250	ug/kg
994-05-8	tert-Amyl Methyl Ether	ND	250	ug/kg
637-92-3	tert-Butyl Ethyl Ether	ND	100	ug/kg
630-20-6	1,1,1,2-Tetrachloroethane	ND	250	ug/kg
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	ug/kg
127-18-4	Tetrachloroethene	ND	100	ug/kg
109-99-9	Tetrahydrofuran	ND	500	ug/kg
108-88-3	Toluene	ND	250	ug/kg
87-61-6	1,2,3-Trichlorobenzene	ND	250	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	250	ug/kg
71-55-6	1,1,1-Trichloroethane	ND	100	ug/kg
79-00-5	1,1,2-Trichloroethane	ND	100	ug/kg
79-01-6	Trichloroethene	ND	100	ug/kg
75-69-4	Trichlorofluoromethane	ND	100	ug/kg
96-18-4	1,2,3-Trichloropropane	ND	250	ug/kg
95-63-6	1,2,4-Trimethylbenzene	ND	250	ug/kg
108-67-8	1,3,5-Trimethylbenzene	ND	250	ug/kg
75-01-4	Vinyl chloride	ND	100	ug/kg
	m,p-Xylene	ND	100	ug/kg
95-47-6	o-Xylene	ND	100	ug/kg
1330-20-7	Xylene (total)	ND	100	ug/kg



### **Method Blank Summary**

Job Number: M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample MSR663-MB	File ID R18611A.D	<b>DF</b> 1	<b>Analyzed</b> 12/07/10	<b>By</b> GK	<b>Prep Date</b> n/a	<b>Prep Batch</b> n/a	Analytical Batch MSR663

### The QC reported here applies to the following samples:

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	114%	70-130%
2037-26-5	Toluene-D8	114%	70-130%
460-00-4	4-Bromofluorobenzene	111%	70-130%



# **Method Blank Summary**

Job Number: M96257

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA **Project:** 

Sample	File ID	DF	Analyzed	By	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
MSR666-MB	R18672A.D	1	12/09/10	GK	n/a	n/a	MSR666

### The QC reported here applies to the following samples:

CAS No.	Compound	Result	RL	Units Q
67-64-1	Acetone	ND	250	ug/kg
71-43-2	Benzene	ND	25	ug/kg
108-86-1	Bromobenzene	ND	250	ug/kg
74-97-5	Bromochloromethane	ND	250	ug/kg
75-27-4	Bromodichloromethane	ND	100	ug/kg
75-25-2	Bromoform	ND	100	ug/kg
74-83-9	Bromomethane	ND	100	ug/kg
78-93-3	2-Butanone (MEK)	ND	250	ug/kg
104-51-8	n-Butylbenzene	ND	250	ug/kg
135-98-8	sec-Butylbenzene	ND	250	ug/kg
98-06-6	tert-Butylbenzene	ND	250	ug/kg
75-15-0	Carbon disulfide	ND	250	ug/kg
56-23-5	Carbon tetrachloride	ND	100	ug/kg
108-90-7	Chlorobenzene	ND	100	ug/kg
75-00-3	Chloroethane	ND	250	ug/kg
67-66-3	Chloroform	ND	100	ug/kg
74-87-3	Chloromethane	ND	250	ug/kg
95-49-8	o-Chlorotoluene	ND	250	ug/kg
106-43-4	p-Chlorotoluene	ND	250	ug/kg
108-20-3	Di-Isopropyl ether	ND	100	ug/kg
96-12-8	1,2-Dibromo-3-chloropropane	ND	250	ug/kg
124-48-1	Dibromochloromethane	ND	100	ug/kg
106-93-4	1,2-Dibromoethane	ND	100	ug/kg
95-50-1	1,2-Dichlorobenzene	ND	100	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	100	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	100	ug/kg
75-71-8	Dichlorodifluoromethane	ND	100	ug/kg
75-34-3	1,1-Dichloroethane	ND	100	ug/kg
107-06-2	1,2-Dichloroethane	ND	100	ug/kg
75-35-4	1,1-Dichloroethene	ND	100	ug/kg
156-59-2	cis-1,2-Dichloroethene	ND	100	ug/kg
156-60-5	trans-1,2-Dichloroethene	ND	100	ug/kg
78-87-5	1,2-Dichloropropane	ND	100	ug/kg
142-28-9	1,3-Dichloropropane	ND	250	ug/kg
594-20-7	2,2-Dichloropropane	ND	250	ug/kg
563-58-6	1,1-Dichloropropene	ND	250	ug/kg



# **Method Blank Summary**

Job Number: M96257

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA **Project:** 

Sample Fi	ile ID	DF	Analyzed	By	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
MSR666-MB R	18672A.D	1	12/09/10	GK	n/a	n/a	MSR666

The QC reported here applies to the following samples:

CAS No.	Compound	Result	RL	Units Q
10061-01-5	cis-1,3-Dichloropropene	ND	100	ug/kg
	trans-1,3-Dichloropropene	ND	100	ug/kg
123-91-1	1,4-Dioxane	ND	1300	ug/kg
60-29-7	Ethyl Ether	ND	250	ug/kg
100-41-4	Ethylbenzene	ND	100	ug/kg
87-68-3	Hexachlorobutadiene	ND	250	ug/kg
591-78-6	2-Hexanone	ND	250	ug/kg
98-82-8	Isopropylbenzene	ND	250	ug/kg
99-87-6	p-Isopropyltoluene	ND	250	ug/kg
1634-04-4	Methyl Tert Butyl Ether	ND	100	ug/kg
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	250	ug/kg
74-95-3	Methylene bromide	ND	250	ug/kg
75-09-2	Methylene chloride	ND	100	ug/kg
91-20-3	Naphthalene	ND	250	ug/kg
103-65-1	n-Propylbenzene	ND	250	ug/kg
100-42-5	Styrene	ND	250	ug/kg
994-05-8	tert-Amyl Methyl Ether	ND	250	ug/kg
637-92-3	tert-Butyl Ethyl Ether	ND	100	ug/kg
630-20-6	1,1,1,2-Tetrachloroethane	ND	250	ug/kg
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	ug/kg
127-18-4	Tetrachloroethene	ND	100	ug/kg
109-99-9	Tetrahydrofuran	ND	500	ug/kg
108-88-3	Toluene	ND	250	ug/kg
87-61-6	1,2,3-Trichlorobenzene	ND	250	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	250	ug/kg
71-55-6	1,1,1-Trichloroethane	ND	100	ug/kg
79-00-5	1,1,2-Trichloroethane	ND	100	ug/kg
79-01-6	Trichloroethene	ND	100	ug/kg
75-69-4	Trichlorofluoromethane	ND	100	ug/kg
96-18-4	1,2,3-Trichloropropane	ND	250	ug/kg
95-63-6	1,2,4-Trimethylbenzene	ND	250	ug/kg
108-67-8	1,3,5-Trimethylbenzene	ND	250	ug/kg
75-01-4	Vinyl chloride	ND	100	ug/kg
	m,p-Xylene	ND	100	ug/kg
95-47-6	o-Xylene	ND	100	ug/kg
1330-20-7	Xylene (total)	ND	100	ug/kg



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**Method:** SW846 8260B

# **Method Blank Summary**

Job Number: M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

MSK000-MB K18072A.D 1 12/09/10 GK II/a II/a MSK000	Sample MSR666-MB	File ID R18672A.D	<b>DF</b> 1	<b>Analyzed</b> 12/09/10	<b>By</b> GK	<b>Prep Date</b> n/a	<b>Prep Batch</b> n/a	<b>Analytical Batch</b> MSR666
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### The QC reported here applies to the following samples:

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	104%	70-130%
2037-26-5	Toluene-D8	107%	70-130%
460-00-4	4-Bromofluorobenzene	105%	70-130%



# Blank Spike/Blank Spike Duplicate Summary

Job Number: M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSR663-BS	R18608A.D	1	12/07/10	GK	n/a	n/a	MSR663
MSR663-BSD	R18609A.D	1	12/07/10	GK	n/a	n/a	MSR663

The QC reported here applies to the following samples:

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
	•	0 0	0 0					
67-64-1	Acetone	2500	2410	96	2160	86	11	70-130/25
71-43-2	Benzene	2500	2740	110	2850	114	4	70-130/25
108-86-1	Bromobenzene	2500	2910	116	2980	119	2	70-130/25
74-97-5	Bromochloromethane	2500	2840	114	2870	115	1	70-130/25
75-27-4	Bromodichloromethane	2500	2950	118	3040	122	3	70-130/25
75-25-2	Bromoform	2500	2900	116	2880	115	1	70-130/25
74-83-9	Bromomethane	2500	2500	100	2590	104	4	70-130/25
78-93-3	2-Butanone (MEK)	2500	2550	102	2490	100	2	70-130/25
104-51-8	n-Butylbenzene	2500	2810	112	2890	116	3	70-130/25
135-98-8	sec-Butylbenzene	2500	2850	114	2950	118	3	70-130/25
98-06-6	tert-Butylbenzene	2500	2920	117	3020	121	3	70-130/25
75-15-0	Carbon disulfide	2500	2770	111	2840	114	2	70-130/25
56-23-5	Carbon tetrachloride	2500	3190	128	3280	131* a	3	70-130/25
108-90-7	Chlorobenzene	2500	3020	121	3080	123	2	70-130/25
75-00-3	Chloroethane	2500	2430	97	2560	102	5	70-130/25
67-66-3	Chloroform	2500	2770	111	2820	113	2	70-130/25
74-87-3	Chloromethane	2500	2150	86	2180	87	1	70-130/25
95-49-8	o-Chlorotoluene	2500	2760	110	2880	115	4	70-130/25
106-43-4	p-Chlorotoluene	2500	2840	114	2930	117	3	70-130/25
108-20-3	Di-Isopropyl ether	2500	2400	96	2430	97	1	70-130/25
96-12-8	1,2-Dibromo-3-chloropropane	2500	2560	102	2590	104	1	70-130/25
124-48-1	Dibromochloromethane	2500	3250	130	3290	132* a	1	70-130/25
106-93-4	1,2-Dibromoethane	2500	2950	118	2960	118	0	70-130/25
95-50-1	1,2-Dichlorobenzene	2500	2920	117	2960	118	1	70-130/25
541-73-1	1,3-Dichlorobenzene	2500	2910	116	2970	119	2	70-130/25
106-46-7	1,4-Dichlorobenzene	2500	2900	116	2960	118	2	70-130/25
75-71-8	Dichlorodifluoromethane	2500	2700	108	2730	109	1	70-130/25
75-34-3	1,1-Dichloroethane	2500	2620	105	2670	107	2	70-130/25
107-06-2	1,2-Dichloroethane	2500	2860	114	2900	116	1	70-130/25
75-35-4	1,1-Dichloroethene	2500	2790	112	2860	114	2	70-130/25
156-59-2	cis-1,2-Dichloroethene	2500	2630	105	2690	108	2	70-130/25
156-60-5	trans-1,2-Dichloroethene	2500	2700	108	2800	112	4	70-130/25
78-87-5	1,2-Dichloropropane	2500	2600	104	2660	106	2	70-130/25
142-28-9	1,3-Dichloropropane	2500	2840	114	2840	114	0	70-130/25
594-20-7	2,2-Dichloropropane	2500	2950	118	3030	121	3	70-130/25
563-58-6	1,1-Dichloropropene	2500	2850	114	2960	118	4	70-130/25

# Blank Spike/Blank Spike Duplicate Summary

Job Number: M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSR663-BS	R18608A.D	1	12/07/10	GK	n/a	n/a	MSR663
MSR663-BSD	R18609A.D	1	12/07/10	GK	n/a	n/a	MSR663

### The QC reported here applies to the following samples:

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	2500	2910	116	3010	120	3	70-130/25
10061-02-6	trans-1,3-Dichloropropene	2500	3200	128	3250	130	2	70-130/25
123-91-1	1,4-Dioxane	12500	11600	93	12700	102	9	70-130/25
60-29-7	Ethyl Ether	2500	2530	101	2570	103	2	70-130/25
100-41-4	Ethylbenzene	2500	2930	117	2990	120	2	70-130/25
87-68-3	Hexachlorobutadiene	2500	3290	132* a	3390	136* a	3	70-130/25
591-78-6	2-Hexanone	2500	2190	88	2070	83	6	70-130/25
98-82-8	Isopropylbenzene	2500	3290	132* a	3430	137* a	4	70-130/25
99-87-6	p-Isopropyltoluene	2500	2930	117	3010	120	3	70-130/25
1634-04-4	Methyl Tert Butyl Ether	2500	2550	102	2540	102	0	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	2500	2140	86	2170	87	1	70-130/25
74-95-3	Methylene bromide	2500	2900	116	2950	118	2	70-130/25
75-09-2	Methylene chloride	2500	2660	106	2760	110	4	70-130/25
91-20-3	Naphthalene	2500	2670	107	2740	110	3	70-130/25
103-65-1	n-Propylbenzene	2500	2790	112	2910	116	4	70-130/25
100-42-5	Styrene	2500	3080	123	3180	127	3	70-130/25
994-05-8	tert-Amyl Methyl Ether	2500	2640	106	2690	108	2	70-130/25
637-92-3	tert-Butyl Ethyl Ether	2500	2580	103	2590	104	0	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	2500	3190	128	3240	130	2	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	2500	2660	106	2690	108	1	70-130/25
127-18-4	Tetrachloroethene	2500	3210	128	3290	132* a	2	70-130/25
109-99-9	Tetrahydrofuran	2500	2080	83	2060	82	1	70-130/25
108-88-3	Toluene	2500	2800	112	2930	117	5	70-130/25
87-61-6	1,2,3-Trichlorobenzene	2500	2870	115	2930	117	2	70-130/25
120-82-1	1,2,4-Trichlorobenzene	2500	3000	120	3060	122	2	70-130/25
71-55-6	1,1,1-Trichloroethane	2500	3040	122	3100	124	2	70-130/25
79-00-5	1,1,2-Trichloroethane	2500	2690	108	2710	108	1	70-130/25
79-01-6	Trichloroethene	2500	2800	112	2910	116	4	70-130/25
75-69-4	Trichlorofluoromethane	2500	2980	119	3030	121	2	70-130/25
96-18-4	1,2,3-Trichloropropane	2500	2610	104	2690	108	3	70-130/25
95-63-6	1,2,4-Trimethylbenzene	2500	2890	116	2980	119	3	70-130/25
108-67-8	1,3,5-Trimethylbenzene	2500	2910	116	2980	119	2	70-130/25
75-01-4	Vinyl chloride	2500	2990	120	2920	117	2	70-130/25
	m,p-Xylene	5000	5920	118	6100	122	3	70-130/25
95-47-6	o-Xylene	2500	2960	118	3050	122	3	70-130/25
1330-20-7	Xylene (total)	7500	8880	118	9160	122	3	70-130/25

# 5.2.1

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**Method:** SW846 8260B

### Blank Spike/Blank Spike Duplicate Summary

Job Number: M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample MSR663-BS	File ID R18608A.D		<b>Analyzed</b> 12/07/10	By GK	Prep Date	Prep Batch n/a	Analytical Batch MSR663
MSR663-BSD	R18609A.D	1	12/07/10	GK	n/a	n/a	MSR663

### The QC reported here applies to the following samples:

M96257-1, M96257-2, M96257-3, M96257-4, M96257-5, M96257-7

CAS No.	<b>Surrogate Recoveries</b>	BSP	BSD	Limits
	Dibromofluoromethane	114%	117%	70-130%
	Toluene-D8	113%	117%	70-130%
	4-Bromofluorobenzene	111%	115%	70-130%

(a) Outside control limits. Blank Spike meets program technical requirements.



**Method:** SW846 8260B

# Blank Spike/Blank Spike Duplicate Summary

Job Number: M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

File ID	DF	Analyzed	By	Prep Date	Prep Batch	<b>Analytical Batch</b>
R18669A.D	1	12/09/10	GK	n/a	n/a	MSR666
R18670A.D	1	12/09/10	GK	n/a	n/a	MSR666
	R18669A.D	File ID         DF           R18669A.D         1           R18670A.D         1	R18669A.D 1 12/09/10	R18669A.D 1 12/09/10 GK	R18669A.D 1 12/09/10 GK n/a	R18669A.D 1 12/09/10 GK n/a n/a

The QC reported here applies to the following samples:

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	2500	2860	114	2810	112	2	70-130/25
71-43-2	Benzene	2500	2770	111	2660	106	4	70-130/25
108-86-1	Bromobenzene	2500	2970	119	2880	115	3	70-130/25
74-97-5	Bromochloromethane	2500	2840	114	2860	114	1	70-130/25
75-27-4	Bromodichloromethane	2500	2860	114	2810	112	2	70-130/25
75-25-2	Bromoform	2500	2860	114	2830	113	1	70-130/25
74-83-9	Bromomethane	2500	2480	99	2430	97	2	70-130/25
78-93-3	2-Butanone (MEK)	2500	2930	117	2800	112	5	70-130/25
104-51-8	n-Butylbenzene	2500	2840	114	2700	108	5	70-130/25
135-98-8	sec-Butylbenzene	2500	2950	118	2810	112	5	70-130/25
98-06-6	tert-Butylbenzene	2500	2920	117	2820	113	3	70-130/25
75-15-0	Carbon disulfide	2500	2860	114	2740	110	4	70-130/25
56-23-5	Carbon tetrachloride	2500	3010	120	2870	115	5	70-130/25
108-90-7	Chlorobenzene	2500	3080	123	2980	119	3	70-130/25
75-00-3	Chloroethane	2500	2480	99	2390	96	4	70-130/25
67-66-3	Chloroform	2500	2700	108	2610	104	3	70-130/25
74-87-3	Chloromethane	2500	2140	86	2110	84	1	70-130/25
95-49-8	o-Chlorotoluene	2500	2820	113	2720	109	4	70-130/25
106-43-4	p-Chlorotoluene	2500	2840	114	2760	110	3	70-130/25
108-20-3	Di-Isopropyl ether	2500	2360	94	2320	93	2	70-130/25
96-12-8	1,2-Dibromo-3-chloropropane	2500	2680	107	2700	108	1	70-130/25
124-48-1	Dibromochloromethane	2500	3200	128	3160	126	1	70-130/25
106-93-4	1,2-Dibromoethane	2500	3020	121	2940	118	3	70-130/25
95-50-1	1,2-Dichlorobenzene	2500	2930	117	2860	114	2	70-130/25
541-73-1	1,3-Dichlorobenzene	2500	2950	118	2860	114	3	70-130/25
106-46-7	1,4-Dichlorobenzene	2500	2900	116	2830	113	2	70-130/25
75-71-8	Dichlorodifluoromethane	2500	2550	102	2380	95	7	70-130/25
75-34-3	1,1-Dichloroethane	2500	2610	104	2560	102	2	70-130/25
107-06-2	1,2-Dichloroethane	2500	2750	110	2710	108	1	70-130/25
75-35-4	1,1-Dichloroethene	2500	2840	114	2750	110	3	70-130/25
156-59-2	cis-1,2-Dichloroethene	2500	2640	106	2570	103	3	70-130/25
156-60-5	trans-1,2-Dichloroethene	2500	2770	111	2710	108	2	70-130/25
78-87-5	1,2-Dichloropropane	2500	2630	105	2550	102	3	70-130/25
142-28-9	1,3-Dichloropropane	2500	2840	114	2790	112	2	70-130/25
594-20-7	2,2-Dichloropropane	2500	2840	114	2730	109	4	70-130/25
563-58-6	1,1-Dichloropropene	2500	2870	115	2790	112	3	70-130/25

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**Method:** SW846 8260B

# Blank Spike/Blank Spike Duplicate Summary

Job Number: M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	<b>Analytical Batch</b>
MSR666-BS	R18669A.D	1	12/09/10	GK	n/a	n/a	MSR666
MSR666-BSD	R18670A.D	1	12/09/10	GK	n/a	n/a	MSR666

The QC reported here applies to the following samples:

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	2500	2910	116	2880	115	1	70-130/25
	trans-1,3-Dichloropropene	2500	3180	127	3100	124	3	70-130/25
123-91-1	1,4-Dioxane	12500	13300	106	13100	105	2	70-130/25
60-29-7	Ethyl Ether	2500	2610	104	2560	102	2	70-130/25
100-41-4	Ethylbenzene	2500	2970	119	2860	114	4	70-130/25
87-68-3	Hexachlorobutadiene	2500	3160	126	3030	121	4	70-130/25
591-78-6	2-Hexanone	2500	2420	97	2460	98	2	70-130/25
98-82-8	Isopropylbenzene	2500	3390	136* a	3260	130	4	70-130/25
99-87-6	p-Isopropyltoluene	2500	2960	118	2840	114	4	70-130/25
1634-04-4	Methyl Tert Butyl Ether	2500	2590	104	2560	102	1	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	2500	2250	90	2260	90	0	70-130/25
74-95-3	Methylene bromide	2500	2840	114	2780	111	2	70-130/25
75-09-2	Methylene chloride	2500	2700	108	2670	107	1	70-130/25
91-20-3	Naphthalene	2500	2790	112	2760	110	1	70-130/25
103-65-1	n-Propylbenzene	2500	2860	114	2760	110	4	70-130/25
100-42-5	Styrene	2500	3180	127	3090	124	3	70-130/25
994-05-8	tert-Amyl Methyl Ether	2500	2690	108	2630	105	2	70-130/25
637-92-3	tert-Butyl Ethyl Ether	2500	2570	103	2540	102	1	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	2500	3130	125	3050	122	3	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	2500	2740	110	2680	107	2	70-130/25
127-18-4	Tetrachloroethene	2500	3270	131* a	3130	125	4	70-130/25
109-99-9	Tetrahydrofuran	2500	2220	89	2270	91	2	70-130/25
108-88-3	Toluene	2500	2830	113	2740	110	3	70-130/25
87-61-6	1,2,3-Trichlorobenzene	2500	2860	114	2810	112	2	70-130/25
120-82-1	1,2,4-Trichlorobenzene	2500	3020	121	2950	118	2	70-130/25
71-55-6	1,1,1-Trichloroethane	2500	2880	115	2770	111	4	70-130/25
79-00-5	1,1,2-Trichloroethane	2500	2720	109	2650	106	3	70-130/25
79-01-6	Trichloroethene	2500	2830	113	2710	108	4	70-130/25
75-69-4	Trichlorofluoromethane	2500	2840	114	2710	108	5	70-130/25
96-18-4	1,2,3-Trichloropropane	2500	2740	110	2710	108	1	70-130/25
95-63-6	1,2,4-Trimethylbenzene	2500	2930	117	2830	113	3	70-130/25
108-67-8	1,3,5-Trimethylbenzene	2500	2950	118	2840	114	4	70-130/25
75-01-4	Vinyl chloride	2500	2460	98	2210	88	11	70-130/25
	m,p-Xylene	5000	6060	121	5850	117	4	70-130/25
95-47-6	o-Xylene	2500	3010	120	2900	116	4	70-130/25
1330-20-7	Xylene (total)	7500	9070	121	8760	117	3	70-130/25

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**Method:** SW846 8260B

### Blank Spike/Blank Spike Duplicate Summary

Job Number: M96257

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA Project:

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	<b>Analytical Batch</b>
MSR666-BS	R18669A.D	1	12/09/10	GK	n/a	n/a	MSR666
MSR666-BSD	R18670A.D	1	12/09/10	GK	n/a	n/a	MSR666

### The QC reported here applies to the following samples:

M96257-6, M96257-8, M96257-9

CAS No.	<b>Surrogate Recoveries</b>	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	108%	106%	70-130%
2037-26-5	Toluene-D8	111%	107%	70-130%
460-00-4	4-Bromofluorobenzene	111%	108%	70-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

**Method:** SW846 8260B

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
M96199-5MS	R18621.D	1	12/07/10	GK	n/a	n/a	MSR663
M96199-5MSD	R18622.D	1	12/07/10	GK	n/a	n/a	MSR663
M96199-5	R18620.D	1	12/07/10	GK	n/a	n/a	MSR663

The QC reported here applies to the following samples:

CAS No.	Compound	M96199 ug/kg	0-5 Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		2760	2090	76	1650	60* a	24	70-130/30
71-43-2	Benzene	20.4		2760	3010	108	3150	114	5	70-130/30
108-86-1	Bromobenzene	ND		2760	3100	112	3220	117	4	70-130/30
74-97-5	Bromochloromethane	ND		2760	2990	108	3140	114	5	70-130/30
75-27-4	Bromodichloromethane	ND		2760	3180	115	3250	118	2	70-130/30
75-25-2	Bromoform	ND		2760	3080	112	3130	114	2	70-130/30
74-83-9	Bromomethane	ND		2760	2820	102	2960	107	5	70-130/30
78-93-3	2-Butanone (MEK)	ND		2760	2390	87	2020	73	17	70-130/30
104-51-8	n-Butylbenzene	ND		2760	3030	110	3170	115	5	70-130/30
135-98-8	sec-Butylbenzene	ND		2760	3080	112	3250	118	5	70-130/30
98-06-6	tert-Butylbenzene	ND		2760	3130	114	3290	119	5	70-130/30
75-15-0	Carbon disulfide	ND		2760	2980	108	3210	116	7	70-130/30
56-23-5	Carbon tetrachloride	ND		2760	3510	127	3610	131* a	3	70-130/30
108-90-7	Chlorobenzene	ND		2760	3270	119	3380	123	3	70-130/30
75-00-3	Chloroethane	ND		2760	2730	99	2930	106	7	70-130/30
67-66-3	Chloroform	ND		2760	2990	108	3100	112	4	70-130/30
74-87-3	Chloromethane	ND		2760	2310	84	2560	93	10	70-130/30
95-49-8	o-Chlorotoluene	ND		2760	2980	108	3110	113	4	70-130/30
106-43-4	p-Chlorotoluene	ND		2760	3050	111	3180	115	4	70-130/30
108-20-3	Di-Isopropyl ether	ND		2760	2580	94	2690	98	4	70-130/30
96-12-8	1,2-Dibromo-3-chloropropane	ND		2760	2780	101	2840	103	2	70-130/30
124-48-1	Dibromochloromethane	ND		2760	3480	126	3530	128	1	70-130/30
106-93-4	1,2-Dibromoethane	ND		2760	3160	115	3240	118	3	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		2760	3130	114	3230	117	3	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		2760	3130	114	3240	118	3	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		2760	3080	112	3230	117	5	70-130/30
75-71-8	Dichlorodifluoromethane	ND		2760	2900	105	3080	112	6	70-130/30
75-34-3	1,1-Dichloroethane	ND		2760	2840	103	2990	108	5	70-130/30
107-06-2	1,2-Dichloroethane	ND		2760	3100	112	3170	115	2	70-130/30
75-35-4	1,1-Dichloroethene	ND		2760	3010	109	3190	116	6	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		2760	2850	103	2980	108	4	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		2760	2930	106	3130	114	7	70-130/30
78-87-5	1,2-Dichloropropane	ND		2760	2820	102	2950	107	5	70-130/30
142-28-9	1,3-Dichloropropane	ND		2760	3040	110	3060	111	1	70-130/30
594-20-7	2,2-Dichloropropane	ND		2760	3140	114	3290	119	5	70-130/30
563-58-6	1,1-Dichloropropene	ND		2760	3110	113	3300	120	6	70-130/30

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**Method:** SW846 8260B

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	<b>Analytical Batch</b>
M96199-5MS	R18621.D	1	12/07/10	GK	n/a	n/a	MSR663
M96199-5MSD	R18622.D	1	12/07/10	GK	n/a	n/a	MSR663
M96199-5	R18620.D	1	12/07/10	GK	n/a	n/a	MSR663

The QC reported here applies to the following samples:

CAS No.	Compound	M96199 ug/kg	0-5 Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		2760	3160	115	3250	118	3	70-130/30
	trans-1,3-Dichloropropene	ND		2760	3430	124	3520	128	3	70-130/30
123-91-1	1,4-Dioxane	ND		13800	12800	93	13400	97	5	70-130/30
60-29-7	Ethyl Ether	ND		2760	2700	98	2810	102	4	70-130/30
100-41-4	Ethylbenzene	ND		2760	3190	116	3290	119	3	70-130/30
87-68-3	Hexachlorobutadiene	ND		2760	3440	125	3650	132* a	6	70-130/30
591-78-6	2-Hexanone	ND		2760	2050	74	1790	65* a	14	70-130/30
98-82-8	Isopropylbenzene	ND		2760	3590	130	3780	137* a	5	70-130/30
99-87-6	p-Isopropyltoluene	ND		2760	3160	115	3310	120	5	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		2760	2740	99	2840	103	4	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		2760	2300	83	2290	83	0	70-130/30
74-95-3	Methylene bromide	ND		2760	3100	112	3160	115	2	70-130/30
75-09-2	Methylene chloride	ND		2760	2910	106	3060	111	5	70-130/30
91-20-3	Naphthalene	136		2760	2820	97	3040	105	8	70-130/30
103-65-1	n-Propylbenzene	ND		2760	3020	110	3170	115	5	70-130/30
100-42-5	Styrene	ND		2760	3350	122	3450	125	3	70-130/30
994-05-8	tert-Amyl Methyl Ether	ND		2760	2850	103	2950	107	3	70-130/30
637-92-3	tert-Butyl Ethyl Ether	ND		2760	2790	101	2880	104	3	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		2760	3460	126	3550	129	3	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		2760	2830	103	2880	104	2	70-130/30
127-18-4	Tetrachloroethene	ND		2760	3470	126	3590	130	3	70-130/30
109-99-9	Tetrahydrofuran	ND		2760	2290	83	2270	82	1	70-130/30
108-88-3	Toluene	38.8		2760	3100	111	3230	116	4	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		2760	2900	105	3130	114	8	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		2760	3160	115	3320	120	5	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		2760	3310	120	3440	125	4	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		2760	2970	108	3000	109	1	70-130/30
79-01-6	Trichloroethene	ND		2760	3070	111	3260	118	6	70-130/30
75-69-4	Trichlorofluoromethane	ND		2760	3280	119	3390	123	3	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		2760	2830	103	2860	104	1	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		2760	3110	113	3240	118	4	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		2760	3130	114	3270	119	4	70-130/30
75-01-4	Vinyl chloride	ND		2760	3610	131* a	3560	129	1	70-130/30
	m,p-Xylene	26.2		5510	6500	117	6730	122	3	70-130/30
95-47-6	o-Xylene	ND		2760	3270	119	3380	123	3	70-130/30
1330-20-7	Xylene (total)	26.2		8270	9760	118	10100	122	3	70-130/30

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**Method:** SW846 8260B

### Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96257

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA Project:

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
M96199-5MS	R18621.D	1	12/07/10	GK	n/a	n/a	MSR663
M96199-5MSD	R18622.D	1	12/07/10	GK	n/a	n/a	MSR663
M96199-5	R18620.D	1	12/07/10	GK	n/a	n/a	MSR663

The QC reported here applies to the following samples:

M96257-1, M96257-2, M96257-3, M96257-4, M96257-5, M96257-7

CAS No.	Surrogate Recoveries	MS	MSD	M96199-5	Limits
1868-53-7	Dibromofluoromethane	112%	118%	113%	70-130%
2037-26-5	Toluene-D8	112%	117%	111%	70-130%
460-00-4	4-Bromofluorobenzene	110%	113%	111%	70-130%

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.

**Method:** SW846 8260B

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	Ву	Prep Date	Prep Batch	Analytical Batch
M96257-6MS	R18688.D	1	12/09/10	GK	n/a	n/a	MSR666
M96257-6MSD	R18689.D	1	12/09/10	GK	n/a	n/a	MSR666
M96257-6	R18682.D	1	12/09/10	GK	n/a	n/a	MSR666

The QC reported here applies to the following samples:

CAS No.	Compound	M96257 ug/kg	7-6 Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		3590	2920	81	2920	81	0	70-130/30
71-43-2	Benzene	35.1		3590	4020	111	3940	109	2	70-130/30
108-86-1	Bromobenzene	ND		3590	4300	120	4340	121	1	70-130/30
74-97-5	Bromochloromethane	ND		3590	4070	113	4090	114	0	70-130/30
75-27-4	Bromodichloromethane	ND		3590	4120	115	4080	114	1	70-130/30
75-25-2	Bromoform	ND		3590	4230	118	4190	117	1	70-130/30
74-83-9	Bromomethane	ND		3590	3670	102	3590	100	2	70-130/30
78-93-3	2-Butanone (MEK)	ND		3590	3230	90	3170	88	2	70-130/30
104-51-8	n-Butylbenzene	ND		3590	4060	113	3990	111	2	70-130/30
135-98-8	sec-Butylbenzene	ND		3590	4190	117	4140	115	1	70-130/30
98-06-6	tert-Butylbenzene	ND		3590	4190	117	4180	116	0	70-130/30
75-15-0	Carbon disulfide	23.6		3590	4050	112	3950	109	3	70-130/30
56-23-5	Carbon tetrachloride	ND		3590	4380	122	4200	117	4	70-130/30
108-90-7	Chlorobenzene	ND		3590	4500	125	4400	122	2	70-130/30
75-00-3	Chloroethane	ND		3590	3530	98	3490	97	1	70-130/30
67-66-3	Chloroform	ND		3590	3810	106	3760	105	1	70-130/30
74-87-3	Chloromethane	ND		3590	2990	83	2920	81	2	70-130/30
95-49-8	o-Chlorotoluene	ND		3590	4060	113	4010	112	1	70-130/30
106-43-4	p-Chlorotoluene	ND		3590	4090	114	4080	114	0	70-130/30
108-20-3	Di-Isopropyl ether	ND		3590	3300	92	3320	92	1	70-130/30
96-12-8	1,2-Dibromo-3-chloropropane	ND		3590	3790	105	4010	112	6	70-130/30
124-48-1	Dibromochloromethane	ND		3590	4710	131* a	4740	132* a	1	70-130/30
106-93-4	1,2-Dibromoethane	ND		3590	4400	122	4400	122	0	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		3590	4230	118	4260	119	1	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		3590	4220	117	4250	118	1	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		3590	4160	116	4170	116	0	70-130/30
75-71-8	Dichlorodifluoromethane	ND		3590	3480	97	3370	94	3	70-130/30
75-34-3	1,1-Dichloroethane	ND		3590	3730	104	3660	102	2	70-130/30
107-06-2	1,2-Dichloroethane	ND		3590	3890	108	3900	109	0	70-130/30
75-35-4	1,1-Dichloroethene	ND		3590	4090	114	3950	110	3	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		3590	3800	106	3760	105	1	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		3590	3930	109	3910	109	1	70-130/30
78-87-5	1,2-Dichloropropane	ND		3590	3860	107	3790	105	2	70-130/30
142-28-9	1,3-Dichloropropane	ND		3590	4060	113	4110	114	1	70-130/30
594-20-7	2,2-Dichloropropane	ND		3590	3750	104	3600	100	4	70-130/30
563-58-6	1,1-Dichloropropene	ND		3590	4230	118	4030	112	5	70-130/30

# Page 2 of 3

**Method:** SW846 8260B

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
M96257-6MS	R18688.D	1	12/09/10	GK	n/a	n/a	MSR666
M96257-6MSD	R18689.D	1	12/09/10	GK	n/a	n/a	MSR666
M96257-6	R18682.D	1	12/09/10	GK	n/a	n/a	MSR666

The QC reported here applies to the following samples:

CAS No.	Compound	M96257 ug/kg	7-6 Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		3590	4180	116	4090	114	2	70-130/30
	trans-1,3-Dichloropropene	ND		3590	4500	125	4480	125	0	70-130/30
123-91-1	1,4-Dioxane	ND		18000	20200	112	18000	100	12	70-130/30
60-29-7	Ethyl Ether	ND		3590	3580	100	3580	100	0	70-130/30
100-41-4	Ethylbenzene	21.8		3590	4350	120	4250	118	2	70-130/30
87-68-3	Hexachlorobutadiene	ND		3590	4700	131* a	4730	132* a	1	70-130/30
591-78-6	2-Hexanone	ND		3590	2480	69* a	2470	69* a	0	70-130/30
98-82-8	Isopropylbenzene	ND		3590	4930	137* a	4900	136* a	1	70-130/30
99-87-6	p-Isopropyltoluene	35.8		3590	4260	118	4230	117	1	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		3590	3670	102	3700	103	1	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		3590	3220	90	3110	87	3	70-130/30
74-95-3	Methylene bromide	ND		3590	4060	113	4060	113	0	70-130/30
75-09-2	Methylene chloride	ND		3590	3860	107	3830	107	1	70-130/30
91-20-3	Naphthalene	2570		3590	7530	138* a	6900	120	9	70-130/30
103-65-1	n-Propylbenzene	ND		3590	4120	115	4060	113	1	70-130/30
100-42-5	Styrene	ND		3590	4710	131* a	4620	129	2	70-130/30
994-05-8	tert-Amyl Methyl Ether	ND		3590	3860	107	3880	108	1	70-130/30
637-92-3	tert-Butyl Ethyl Ether	ND		3590	3660	102	3640	101	1	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		3590	4620	129	4480	125	3	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		3590	3750	104	3780	105	1	70-130/30
127-18-4	Tetrachloroethene	ND		3590	4830	134* a	4640	129	4	70-130/30
109-99-9	Tetrahydrofuran	ND		3590	3210	89	3200	89	0	70-130/30
108-88-3	Toluene	47.1		3590	4140	114	4060	112	2	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		3590	4000	111	4030	112	1	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		3590	4240	118	4320	120	2	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		3590	4090	114	4020	112	2	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		3590	3950	110	3910	109	1	70-130/30
79-01-6	Trichloroethene	ND		3590	4260	119	4260	119	0	70-130/30
75-69-4	Trichlorofluoromethane	ND		3590	4030	112	3880	108	4	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		3590	3850	107	3910	109	2	70-130/30
95-63-6	1,2,4-Trimethylbenzene	34.7		3590	4260	118	4220	116	1	70-130/30
108-67-8	1,3,5-Trimethylbenzene	26.5		3590	4270	118	4240	117	1	70-130/30
75-01-4	Vinyl chloride	ND		3590	3890	108	3880	108	0	70-130/30
	m,p-Xylene	67.2		7190	8870	122	8660	120	2	70-130/30
95-47-6	o-Xylene	23.6		3590	4440	123	4310	119	3	70-130/30
1330-20-7	Xylene (total)	90.8		10800	13300	123	13000	120	2	70-130/30

Page 3 of 3

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
M96257-6MS	R18688.D	1	12/09/10	GK	n/a	n/a	MSR666
M96257-6MSD	R18689.D	1	12/09/10	GK	n/a	n/a	MSR666
M96257-6	R18682.D	1	12/09/10	GK	n/a	n/a	MSR666

The QC reported here applies to the following samples: Method: SW846 8260B

M96257-6, M96257-8, M96257-9

CAS No.	<b>Surrogate Recoveries</b>	MS	MSD	M96257-6	Limits
1868-53-7	Dibromofluoromethane	109%	106%	107%	70-130%
2037-26-5	Toluene-D8	113%	111%	111%	70-130%
460-00-4	4-Bromofluorobenzene	112%	112%	113%	70-130%

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.

### **Volatile Internal Standard Area Summary**

**Job Number:** M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

 Check Std:
 MSR663-CC638
 Injection Date:
 12/07/10

 Lab File ID:
 R18607A.D
 Injection Time:
 11:42

**Instrument ID:** GCMSR **Method:** SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std Upper Limit <sup>a</sup> Lower Limit <sup>b</sup>	245633 491266 122817	9.11 9.61 8.61	334396 668792 167198	9.98 10.48 9.48	163836 327672 81918	13.25 13.75 12.75	209360 418720 104680	16.31	57565 115130 28783	6.69 7.19 6.19
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSR663-BS MSR663-BSD MSR663-MB ZZZZZZ ZZZZZZ ZZZZZZ ZZZZZZ ZZZZZZ ZZZZ	253675 263012 242830 241428 242379 248034 244906 255050 257923 252139 255355 254353 256007 262654 242399 248803	9.11 9.11 9.11 9.11 9.12 9.11 9.12 9.11 9.12 9.11 9.11	349518 358034 323578 320487 321117 327937 322125 338140 341496 333503 346440 343345 351908 361449 326304 337716	9.99 9.99 9.99 9.99 9.99 9.99 9.99 9.9	168530 173848 149093 149117 149308 152646 152153 155352 157408 156694 160157 158674 170707 175747 157304 160511	13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25	198728 199531 201398 200450 204976 207045 206389 211754 204410 220648	15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81	57708 58413 57282 60138 62710 59382 58768 57477 58299 59499 58454 61397 60801	6.69 6.69 6.69 6.69 6.69 6.69 6.69 6.69
ZZZZZZ M96257-1 M96257-4 M96257-7 M96257-5 M96257-3 ZZZZZZ M96257-2	265404 261529 254737 252366 254895 257016 259611 46991°	9.11 9.11 9.11 9.11 9.11 9.11 9.11	356400 350386 345434 339362 344973 340928 349349 44006°	9.99 9.99 9.99 9.99 9.99 9.99 9.99	166624 161029 157067 158197 161294 159441 161216	13.25 13.25 13.25 13.25 13.25 13.25 13.25	216708 210522 207079 208732 210656 208644 214770 20151°	15.81 15.81 15.81 15.81 15.81 15.81	66027 63374 62685 64542	6.69 6.69 6.69 6.69 6.69 6.69 6.69 6.67

IS 1 = Pentafluorobenzene
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5
IS 4 = 1,4-Dichlorobenzene-d4
IS 5 = Tert Butyl Alcohol-D9

- (a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
- (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
- (c) Outside control limits due to possible matrix interference. Confirmed by reanalysis.



# **Volatile Internal Standard Area Summary**

**Job Number:** M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

 Check Std:
 MSR666-CC638
 Injection Date:
 12/09/10

 Lab File ID:
 R18668A.D
 Injection Time:
 11:44

**Instrument ID:** GCMSR **Method:** SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std Upper Limit <sup>a</sup> Lower Limit <sup>b</sup>	311163 622326 155582	9.11 9.61 8.61	429211 858422 214606	9.98 10.48 9.48	204434 408868 102217	13.25 13.75 12.75	260910 521820 130455	15.81 16.31 15.31	79157 158314 39579	6.69 7.19 6.19
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSR666-BS MSR665-BS MSR666-BSD MSR666-BSD MSR666-MB MSR665-MB ZZZZZZ ZZZZZZ ZZZZZZ M96257-8 M96257-9 ZZZZZZ ZZZZZZ ZZZZZZ ZZZZZZ ZZZZZZ M96257-6 ZZZZZZ M96317-5 M96317-5MS M96257-6MS	315184 315184 319323 319323 307128 307128 299938 293863 303627 290099 297028 301704 309940 316033 318260 310642 304881 309127 316116 311208 325926	9.11 9.11 9.11 9.11 9.11 9.11 9.11 9.11	431067 431067 441479 441479 413264 413264 405104 399680 406971 389305 398516 405483 417236 427239 430043 420167 415218 416148 431809 426019 440035	9.98 9.98 9.99 9.99 9.99 9.99 9.99 9.99	205285 205285 209655 209655 185930 185930 183268 183439 184327 178006 187487 188417 196701 198244 197346 192625 190791 188424 204450 204778 207574	13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25	258619 258619 263268 263268 247941 247941 249802 238853 238597 237344 249683 246534 257739 260755 260403 259135 258708 258001 263631 265133 265105	15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81	79429 79429 82194 82194 78601 78601 73855 76082 75530 75194 72311 72904 74090 72868 80595 75360 75043 74300 76750 78923 84862	6.69 6.69 6.69 6.69 6.69 6.69 6.68 6.71 6.69 6.68 6.69 6.68 6.69 6.68 6.68 6.68
M96257-6MSD ZZZZZZ ZZZZZZ M96257-2 °	323236 312582 309797 41180 <sup>d</sup>	9.11 9.11 9.11 9.12	439036 420400 418159 40799 <sup>d</sup>	9.99 9.99 9.99 10.00	208017 192613 194534 22587 <sup>d</sup>	13.25 13.25 13.25 13.27	260498 254339 255252 13505 <sup>d</sup>	15.81 15.81 15.81 15.82	74927 77765	6.69 6.69 6.69 6.67

IS 1 = Pentafluorobenzene IS 2 = 1,4-Difluorobenzene IS 3 = Chlorobenzene-D5 IS 4 = 1,4-Dichlorobenzene-d4 IS 5 = Tert Butyl Alcohol-D9



<sup>(</sup>a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.

<sup>(</sup>b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

<sup>(</sup>c) Confirmation run for surrogate recoveries.

### **Volatile Internal Standard Area Summary**

**Job Number:** M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

 Check Std:
 MSR666-CC638
 Injection Date:
 12/09/10

 Lab File ID:
 R18668A.D
 Injection Time:
 11:44

**Instrument ID:** GCMSR Method: SW846 8260B

Lab IS 1 **IS 2** IS 3 **IS 4** IS 5 Sample ID **AREA AREA AREA** RT **AREA** RT**AREA** RT RTRT

(d) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

# **Volatile Internal Standard Area Summary**

Job Number: M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

 Check Std:
 MSR665-CC637
 Injection Date:
 12/09/10

 Lab File ID:
 R18668.D
 Injection Time:
 11:44

**Instrument ID:** GCMSR **Method:** SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std Upper Limit <sup>a</sup> Lower Limit <sup>b</sup>	311163 622326 155582	9.11 9.61 8.61	429211 858422 214606	9.98 10.48 9.48	204434 408868 102217	13.25 13.75 12.75	260910 521820 130455	15.81 16.31 15.31	79157 158314 39579	6.69 7.19 6.19
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSR666-BS MSR665-BS MSR666-BSD MSR666-BSD MSR666-MB MSR665-MB ZZZZZZ ZZZZZZ ZZZZZZ M96257-8 M96257-9 ZZZZZZ ZZZZZZ ZZZZZZ ZZZZZZ ZZZZZZ M96257-6 ZZZZZZ M96317-5 M96317-5MS M96257-6MS	315184 315184 319323 319323 307128 307128 299938 293863 303627 290099 297028 301704 309940 316033 318260 310642 304881 309127 316116 311208 325926	9.11 9.11 9.11 9.11 9.11 9.11 9.11 9.11	431067 431067 441479 441479 413264 413264 405104 399680 406971 389305 398516 405483 417236 427239 430043 420167 415218 416148 431809 426019 440035	9.98 9.98 9.99 9.99 9.99 9.99 9.99 9.99	205285 205285 209655 209655 185930 185930 183268 183439 184327 178006 187487 188417 196701 198244 197346 192625 190791 188424 204450 204778 207574	13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25	258619 258619 263268 263268 247941 247941 249802 238853 238597 237344 249683 246534 257739 260755 260403 259135 258708 258001 263631 265133 265105	15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81	79429 79429 82194 82194 78601 78601 73855 76082 75530 75194 72311 72904 74090 72868 80595 75360 75043 74300 76750 78923 84862	6.69 6.69 6.69 6.69 6.69 6.69 6.68 6.71 6.69 6.68 6.69 6.68 6.69 6.68 6.68 6.68
M96257-6MSD ZZZZZZ ZZZZZZ M96257-2 °	323236 312582 309797 41180 <sup>d</sup>	9.11 9.11 9.11 9.12	439036 420400 418159 40799 <sup>d</sup>	9.99 9.99 9.99 10.00	208017 192613 194534 22587 <sup>d</sup>	13.25 13.25 13.25 13.27	260498 254339 255252 13505 <sup>d</sup>	15.81 15.81 15.81 15.82	74927 77765	6.69 6.69 6.69 6.67

IS 1 = Pentafluorobenzene IS 2 = 1,4-Difluorobenzene IS 3 = Chlorobenzene-D5 IS 4 = 1,4-Dichlorobenzene-d4 IS 5 = Tert Butyl Alcohol-D9



<sup>(</sup>a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.

<sup>(</sup>b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

<sup>(</sup>c) Confirmation run for surrogate recoveries.

### **Volatile Internal Standard Area Summary**

**Job Number:** M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

 Check Std:
 MSR665-CC637
 Injection Date:
 12/09/10

 Lab File ID:
 R18668.D
 Injection Time:
 11:44

**Instrument ID:** GCMSR **Method:** SW846 8260B

Lab IS 1 **IS 2** IS 3 **IS 4** IS 5 Sample ID **AREA AREA AREA** RT **AREA** RT**AREA** RT RTRT

(d) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

O

### **Volatile Surrogate Recovery Summary**

Job Number: M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Method: SW846 8260B Matrix: SO

### Samples and QC shown here apply to the above method

Lab	Lab			
Sample ID	File ID	S1	S2	S3
M96257-1	R18627.D	106.0	107.0	104.0
M96257-2	R18693.D	14.0* a	100.0	120.0
M96257-2	R18633.D	18.0* a	116.0	94.0
M96257-3	R18631.D	112.0	113.0	105.0
M96257-4	R18628.D	114.0	112.0	111.0
M96257-5	R18630.D	103.0	112.0	112.0
M96257-6	R18682.D	107.0	111.0	113.0
M96257-7	R18629.D	112.0	113.0	110.0
M96257-8	R18676.D	107.0	108.0	107.0
M96257-9	R18677.D	107.0	112.0	109.0
M96199-5MS	R18621.D	112.0	112.0	110.0
M96199-5MSD	R18622.D	118.0	117.0	113.0
M96257-6MS	R18688.D	109.0	113.0	112.0
M96257-6MSD	R18689.D	106.0	111.0	112.0
MSR663-BS	R18608A.D	114.0	113.0	111.0
MSR663-BSD	R18609A.D	117.0	117.0	115.0
MSR663-MB	R18611A.D	114.0	114.0	111.0
MSR666-BS	R18669A.D	108.0	111.0	111.0
MSR666-BSD	R18670A.D	106.0	107.0	108.0
MSR666-MB	R18672A.D	104.0	107.0	105.0

Surrogate Recovery Compounds Limits

 S1 = Dibromofluoromethane
 70-130%

 S2 = Toluene-D8
 70-130%

 S3 = 4-Bromofluorobenzene
 70-130%

(a) Outside control limits due to possible matrix interference. Confirmed by reanalysis.





### GC/MS Semi-volatiles

### QC Data Summaries

### Includes the following where applicable:

- · Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries



**Method:** SW846 8270C

### **Method Blank Summary**

Job Number: M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample OP23538-MB	<b>File ID</b> S19958.D	<b>DF</b> 1	<b>Analyzed</b> 12/13/10	<b>By</b> PR	<b>Prep Date</b> 12/06/10	Prep Batch OP23538	Analytical Batch MSS826

### The QC reported here applies to the following samples:

CAS No.	Compound	Result	RL	Units Q
65-85-0	Benzoic acid	ND	480	ug/kg
95-57-8	2-Chlorophenol	ND	240	ug/kg
59-50-7	4-Chloro-3-methyl phenol	ND	480	ug/kg
120-83-2	2,4-Dichlorophenol	ND	480	ug/kg
105-67-9	2,4-Dimethylphenol	ND	480	ug/kg
51-28-5	2,4-Dinitrophenol	ND	960	ug/kg
95-48-7	2-Methylphenol	ND	480	ug/kg
	3&4-Methylphenol	ND	480	ug/kg
88-75-5	2-Nitrophenol	ND	480	ug/kg
100-02-7	4-Nitrophenol	ND	960	ug/kg
87-86-5	Pentachlorophenol	ND	480	ug/kg
108-95-2	Phenol	ND	240	ug/kg
95-95-4	2,4,5-Trichlorophenol	ND	480	ug/kg
88-06-2	2,4,6-Trichlorophenol	ND	480	ug/kg
83-32-9	Acenaphthene	ND	240	ug/kg
208-96-8	Acenaphthylene	ND	240	ug/kg
98-86-2	Acetophenone	ND	480	ug/kg
62-53-3	Aniline	ND	480	ug/kg
120-12-7	Anthracene	ND	240	ug/kg
56-55-3	Benzo(a)anthracene	ND	240	ug/kg
50-32-8	Benzo(a)pyrene	ND	240	ug/kg
205-99-2	Benzo(b)fluoranthene	ND	240	ug/kg
191-24-2	Benzo(g,h,i)perylene	ND	240	ug/kg
207-08-9	Benzo(k)fluoranthene	ND	240	ug/kg
101-55-3	4-Bromophenyl phenyl ether	ND	240	ug/kg
85-68-7	Butyl benzyl phthalate	13.7	240	ug/kg J
91-58-7	2-Chloronaphthalene	ND	240	ug/kg
106-47-8	4-Chloroaniline	ND	480	ug/kg
218-01-9	Chrysene	ND	240	ug/kg
111-91-1	bis(2-Chloroethoxy)methane	ND	240	ug/kg
111-44-4	bis(2-Chloroethyl)ether	ND	240	ug/kg
108-60-1	bis(2-Chloroisopropyl)ether	ND	240	ug/kg
95-50-1	1,2-Dichlorobenzene	ND	240	ug/kg
122-66-7	1,2-Diphenylhydrazine	ND	240	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	240	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	240	ug/kg



Page 2 of 2

**Method:** SW846 8270C

### **Method Blank Summary**

Job Number: M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample OP23538-MB	File ID S19958.D	<b>DF</b> 1	<b>Analyzed</b> 12/13/10	<b>By</b> PR	<b>Prep Date</b> 12/06/10	Prep Batch OP23538	Analytical Batch MSS826

### The QC reported here applies to the following samples:

CAS No.	Compound	Result	RL	Units Q
121-14-2	2,4-Dinitrotoluene	ND	480	ug/kg
606-20-2	2,6-Dinitrotoluene	ND	480	ug/kg
91-94-1	3,3'-Dichlorobenzidine	ND	240	ug/kg
53-70-3	Dibenzo(a,h)anthracene	ND	240	ug/kg
132-64-9	Dibenzofuran	ND	240	ug/kg
84-74-2	Di-n-butyl phthalate	ND	240	ug/kg
117-84-0	Di-n-octyl phthalate	ND	240	ug/kg
84-66-2	Diethyl phthalate	ND	240	ug/kg
131-11-3	Dimethyl phthalate	ND	240	ug/kg
117-81-7	bis(2-Ethylhexyl)phthalate	101	240	ug/kg J
206-44-0	Fluoranthene	ND	240	ug/kg
86-73-7	Fluorene	ND	240	ug/kg
118-74-1	Hexachlorobenzene	ND	240	ug/kg
87-68-3	Hexachlorobutadiene	ND	240	ug/kg
77-47-4	Hexachlorocyclopentadiene	ND	480	ug/kg
67-72-1	Hexachloroethane	ND	240	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	ND	240	ug/kg
78-59-1	Isophorone	ND	240	ug/kg
91-57-6	2-Methylnaphthalene	ND	240	ug/kg
91-20-3	Naphthalene	ND	240	ug/kg
98-95-3	Nitrobenzene	ND	240	ug/kg
621-64-7	N-Nitroso-di-n-propylamine	ND	240	ug/kg
86-30-6	N-Nitrosodiphenylamine	ND	240	ug/kg
85-01-8	Phenanthrene	ND	240	ug/kg
129-00-0	Pyrene	ND	240	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	240	ug/kg

CAS No.	Surrogate Recoveries		Limits
367-12-4 4165-62-2 118-79-6 4165-60-0 321-60-8 1718-51-0	2-Fluorophenol Phenol-d5 2,4,6-Tribromophenol Nitrobenzene-d5 2-Fluorobiphenyl Terphenyl-d14	81% 78% 93% 79% 91% 106%	30-130% 30-130% 30-130% 30-130% 30-130%



**Method:** SW846 8270C

# Blank Spike/Blank Spike Duplicate Summary

Job Number: M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	Ву	Prep Date	Prep Batch	Analytical Batch
OP23538-BS	S19959.D	1	12/13/10	PR	12/06/10	OP23538	MSS826
OP23538-BSD	S19960.D	1	12/13/10	PR	12/06/10	OP23538	MSS826

The QC reported here applies to the following samples:

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic acid	4870	3100	64	3140	64	1	30-130/30
95-57-8	2-Chlorophenol	4870	3700	76	3600	73	3	30-130/30
59-50-7	4-Chloro-3-methyl phenol	4870	3860	79	3880	79	1	30-130/30
120-83-2	2,4-Dichlorophenol	4870	4170	86	4200	86	1	30-130/30
105-67-9	2,4-Dimethylphenol	4870	3580	73	3560	73	1	30-130/30
51-28-5	2,4-Dinitrophenol	4870	3370	69	2990	61	12	30-130/30
95-48-7	2-Methylphenol	4870	3570	73	3520	72	1	30-130/30
	3&4-Methylphenol	9750	9550	98	9340	95	2	30-130/30
88-75-5	2-Nitrophenol	4870	4010	82	4050	82	1	30-130/30
100-02-7	4-Nitrophenol	4870	3370	69	3370	69	0	30-130/30
87-86-5	Pentachlorophenol	4870	3270	67	3160	64	3	30-130/30
108-95-2	Phenol	4870	3700	76	3660	75	1	30-130/30
95-95-4	2,4,5-Trichlorophenol	4870	4140	85	4230	86	2	30-130/30
88-06-2	2,4,6-Trichlorophenol	4870	4360	89	4360	89	0	30-130/30
83-32-9	Acenaphthene	2440	2020	83	2010	82	0	40-140/30
208-96-8	Acenaphthylene	2440	1500	62	1490	61	1	40-140/30
98-86-2	Acetophenone	2440	3520	144* a	3440	140	2	40-140/30
62-53-3	Aniline	2440	1380	57	1350	55	2	40-140/30
120-12-7	Anthracene	2440	2070	85	2070	84	0	40-140/30
56-55-3	Benzo(a)anthracene	2440	2210	91	2260	92	2	40-140/30
50-32-8	Benzo(a)pyrene	2440	2070	85	2050	84	1	40-140/30
205-99-2	Benzo(b)fluoranthene	2440	2050	84	2070	84	1	40-140/30
191-24-2	Benzo(g,h,i)perylene	2440	2040	84	2080	85	2	40-140/30
207-08-9	Benzo(k)fluoranthene	2440	2300	94	2240	91	3	40-140/30
101-55-3	4-Bromophenyl phenyl ether	2440	2180	89	2170	88	0	40-140/30
85-68-7	Butyl benzyl phthalate	2440	2060	85	2090	85	1	40-140/30
91-58-7	2-Chloronaphthalene	2440	2050	84	2050	84	0	40-140/30
106-47-8	4-Chloroaniline	2440	1530	63	1530	62	0	40-140/30
218-01-9	Chrysene	2440	2220	91	2210	90	0	40-140/30
111-91-1	bis(2-Chloroethoxy)methane	2440	1840	76	1860	76	1	40-140/30
111-44-4	bis(2-Chloroethyl)ether	2440	1780	73	1680	68	6	40-140/30
108-60-1	bis(2-Chloroisopropyl)ether	2440	1690	69	1630	66	4	40-140/30
95-50-1	1,2-Dichlorobenzene	2440	1820	75	1760	72	3	40-140/30
122-66-7	1,2-Diphenylhydrazine	2440	1830	75	1820	74	1	40-140/30
541-73-1	1,3-Dichlorobenzene	2440	1790	73	1750	71	2	40-140/30
106-46-7	1,4-Dichlorobenzene	2440	1760	72	1730	70	2	40-140/30



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**Method:** SW846 8270C

# Blank Spike/Blank Spike Duplicate Summary

Job Number: M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP23538-BS	S19959.D	1	12/13/10	PR	12/06/10	OP23538	MSS826
OP23538-BSD	S19960.D	1	12/13/10	PR	12/06/10	OP23538	MSS826

### The QC reported here applies to the following samples:

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
121-14-2	2,4-Dinitrotoluene	2440	2090	86	2080	85	0	40-140/30
606-20-2	2,6-Dinitrotoluene	2440	2050	84	2030	83	1	40-140/30
91-94-1	3,3'-Dichlorobenzidine	2440	1720	71	1740	71	1	40-140/30
53-70-3	Dibenzo(a,h)anthracene	2440	2140	88	2170	88	1	40-140/30
132-64-9	Dibenzofuran	2440	1950	80	1910	78	2	40-140/30
84-74-2	Di-n-butyl phthalate	2440	2030	83	2020	82	0	40-140/30
117-84-0	Di-n-octyl phthalate	2440	2310	95	2300	94	0	40-140/30
84-66-2	Diethyl phthalate	2440	2070	85	2030	83	2	40-140/30
131-11-3	Dimethyl phthalate	2440	2070	85	2060	84	0	40-140/30
117-81-7	bis(2-Ethylhexyl)phthalate	2440	2120	87	2110	86	0	40-140/30
206-44-0	Fluoranthene	2440	2050	84	2030	83	1	40-140/30
86-73-7	Fluorene	2440	2120	87	2090	85	1	40-140/30
118-74-1	Hexachlorobenzene	2440	2170	89	2150	88	1	40-140/30
87-68-3	Hexachlorobutadiene	2440	1940	80	1950	79	1	40-140/30
77-47-4	Hexachlorocyclopentadiene	2440	1190	49	1190	48	0	40-140/30
67-72-1	Hexachloroethane	2440	1690	69	1670	68	1	40-140/30
193-39-5	Indeno(1,2,3-cd)pyrene	2440	2190	90	2220	90	1	40-140/30
78-59-1	Isophorone	2440	1770	73	1770	72	0	40-140/30
91-57-6	2-Methylnaphthalene	2440	1900	78	1900	77	0	40-140/30
91-20-3	Naphthalene	2440	1920	79	1940	79	1	40-140/30
98-95-3	Nitrobenzene	2440	1740	71	1750	71	1	40-140/30
621-64-7	N-Nitroso-di-n-propylamine	2440	1830	75	1780	73	3	40-140/30
86-30-6	N-Nitrosodiphenylamine	2440	2130	87	2140	87	0	40-140/30
85-01-8	Phenanthrene	2440	1970	81	1950	79	1	40-140/30
129-00-0	Pyrene	2440	2170	89	2220	90	2	40-140/30
120-82-1	1,2,4-Trichlorobenzene	2440	1970	81	1960	80	1	40-140/30

CAS No.	<b>Surrogate Recoveries</b>	BSP	BSD	Limits
367-12-4 4165-62-2 118-79-6 4165-60-0 321-60-8 1718-51-0	2-Fluorophenol Phenol-d5 2,4,6-Tribromophenol Nitrobenzene-d5 2-Fluorobiphenyl Terphenyl-d14	74% 73% 90% 72% 85% 92%	71% 69% 88% 72% 85% 90%	30-130% 30-130% 30-130% 30-130% 30-130%



# 6.2.

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**Method:** SW846 8270C

### Blank Spike/Blank Spike Duplicate Summary

Job Number: M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

e <b>ID</b> 1	DF .	Analyzed	By	Prep Date	Prep Batch	<b>Analytical Batch</b>
959.D	1	12/13/10	PR	12/06/10	OP23538	MSS826
960.D	1	12/13/10	PR	12/06/10	OP23538	MSS826

The QC reported here applies to the following samples:

M96257-1, M96257-2, M96257-3, M96257-4, M96257-5, M96257-6, M96257-7, M96257-8, M96257-9

(a) Outside control limits. Associated samples are non-detect for this compound.

**Method:** SW846 8270C

# **Matrix Spike Summary**

Job Number: M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	<b>File ID</b>	<b>DF</b> 1 1	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP23538-MS	S19961.D		12/13/10	PR	12/06/10	OP23538	MSS826
M96289-4	S19975.D		12/13/10	PR	12/06/10	OP23538	MSS826

The QC reported here applies to the following samples:

65-85-0         Benzoic acid         ND         5430         655         12* a         30-130           95-57-8         2-Chlorophenol         ND         5430         3510         65         30-130           59-50-7         4-Chloro-3-methyl phenol         ND         5430         3800         70         30-130           120-83-2         2,4-Dichlorophenol         ND         5430         3620         67         30-130           105-67-9         2,4-Dimethylphenol         ND         5430         3670         68         30-130           51-28-5         2,4-Dinitrophenol         ND         5430         ND         0* a         30-130           95-48-7         2-Methylphenol         52.1         5430         3670         67         30-130           3&4-Methylphenol         262         10900         9910         89         30-130
95-57-8 2-Chlorophenol ND 5430 3510 65 30-130 59-50-7 4-Chloro-3-methyl phenol ND 5430 3800 70 30-130 120-83-2 2,4-Dichlorophenol ND 5430 3620 67 30-130 105-67-9 2,4-Dimethylphenol ND 5430 3670 68 30-130 51-28-5 2,4-Dinitrophenol ND 5430 ND 0* a 30-130 95-48-7 2-Methylphenol 52.1 5430 3670 67 30-130 3&4-Methylphenol 262 10900 9910 89 30-130
59-50-7         4-Chloro-3-methyl phenol         ND         5430         3800         70         30-130           120-83-2         2,4-Dichlorophenol         ND         5430         3620         67         30-130           105-67-9         2,4-Dimethylphenol         ND         5430         3670         68         30-130           51-28-5         2,4-Dinitrophenol         ND         5430         ND         0* a         30-130           95-48-7         2-Methylphenol         52.1         5430         3670         67         30-130           3&4-Methylphenol         262         10900         9910         89         30-130
120-83-2       2,4-Dichlorophenol       ND       5430       3620       67       30-130         105-67-9       2,4-Dimethylphenol       ND       5430       3670       68       30-130         51-28-5       2,4-Dinitrophenol       ND       5430       ND       0* a       30-130         95-48-7       2-Methylphenol       52.1       5430       3670       67       30-130         3&4-Methylphenol       262       10900       9910       89       30-130
105-67-9       2,4-Dimethylphenol       ND       5430       3670       68       30-130         51-28-5       2,4-Dinitrophenol       ND       5430       ND       0* a       30-130         95-48-7       2-Methylphenol       52.1       5430       3670       67       30-130         3&4-Methylphenol       262       10900       9910       89       30-130
51-28-5       2,4-Dinitrophenol       ND       5430       ND       0* a       30-130         95-48-7       2-Methylphenol       52.1       5430       3670       67       30-130         3&4-Methylphenol       262       10900       9910       89       30-130
95-48-7 2-Methylphenol 52.1 5430 3670 67 30-130 3&4-Methylphenol 262 10900 9910 89 30-130
3&4-Methylphenol 262 10900 9910 89 30-130
7 I
88-75-5 2-Nitrophenol ND 5430 3530 65 30-130
100-02-7 4-Nitrophenol ND 5430 2460 45 30-130
87-86-5 Pentachlorophenol ND 5430 978 18* a 30-130
108-95-2 Phenol ND 5430 3690 68 30-130
95-95-4 2,4,5-Trichlorophenol ND 5430 3230 59 30-130
88-06-2 2,4,6-Trichlorophenol ND 5430 3410 63 30-130
83-32-9 Acenaphthene 537 2720 2980 90 40-140
208-96-8 Acenaphthylene 740 2720 2060 49 40-140
98-86-2 Acetophenone 25.3 2720 3730 136 40-140
62-53-3 Aniline ND 2720 1090 40 40-140
120-12-7 Anthracene 2550 2720 5610 113 40-140
56-55-3 Benzo(a)anthracene 7540 2720 9820 84 40-140
50-32-8 Benzo(a)pyrene 5800 2720 7220 52 40-140
205-99-2 Benzo(b)fluoranthene 4340 2720 6150 67 40-140
191-24-2 Benzo(g,h,i)perylene 2700 2720 6040 123 40-140
207-08-9 Benzo(k)fluoranthene 4240 2720 5610 50 40-140
101-55-3 4-Bromophenyl phenyl ether ND 2720 2160 80 40-140
85-68-7 Butyl benzyl phthalate ND 2720 2220 82 40-140
91-58-7 2-Chloronaphthalene ND 2720 2000 74 40-140
106-47-8 4-Chloroaniline ND 2720 1550 57 40-140
218-01-9 Chrysene 6590 2720 8960 87 40-140
111-91-1 bis(2-Chloroethoxy)methane ND 2720 1810 67 40-140
111-44-4 bis(2-Chloroethyl)ether ND 2720 1880 69 40-140
108-60-1 bis(2-Chloroisopropyl)ether ND 2720 1770 65 40-140
95-50-1 1,2-Dichlorobenzene ND 2720 1850 68 40-140
122-66-7 1,2-Diphenylhydrazine ND 2720 1810 67 40-140
541-73-1 1,3-Dichlorobenzene ND 2720 1810 67 40-140
106-46-7 1,4-Dichlorobenzene ND 2720 1780 66 40-140



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**Method:** SW846 8270C

### **Matrix Spike Summary**

Job Number: M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

<b>Sample</b>	<b>File ID</b>	<b>DF</b> 1 1	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP23538-MS	S19961.D		12/13/10	PR	12/06/10	OP23538	MSS826
M96289-4	S19975.D		12/13/10	PR	12/06/10	OP23538	MSS826

### The QC reported here applies to the following samples:

		M96289-4	Spike	MS	MS	
CAS No.	Compound	ug/kg Q	ug/kg	ug/kg	<b>%</b>	Limits
121-14-2	2,4-Dinitrotoluene	ND	2720	1920	71	40-140
606-20-2	2,6-Dinitrotoluene	ND	2720	1970	73	40-140
91-94-1	3,3'-Dichlorobenzidine	ND	2720	1740	64	40-140
53-70-3	Dibenzo(a,h)anthracene	1450	2720	4060	96	40-140
132-64-9	Dibenzofuran	571	2720	2850	84	40-140
84-74-2	Di-n-butyl phthalate	ND	2720	2060	76	40-140
117-84-0	Di-n-octyl phthalate	ND	2720	1950	72	40-140
84-66-2	Diethyl phthalate	ND	2720	2010	74	40-140
131-11-3	Dimethyl phthalate	ND	2720	1960	72	40-140
117-81-7	bis(2-Ethylhexyl)phthalate	76.7	2720	2340	83	40-140
206-44-0	Fluoranthene	10700	2720	13800	114	40-140
86-73-7	Fluorene	902	2720	3490	95	40-140
118-74-1	Hexachlorobenzene	ND	2720	2120	78	40-140
87-68-3	Hexachlorobutadiene	ND	2720	1990	73	40-140
77-47-4	Hexachlorocyclopentadiene	ND	2720	614	23* a	40-140
67-72-1	Hexachloroethane	ND	2720	1780	66	40-140
193-39-5	Indeno(1,2,3-cd)pyrene	2900	2720	5920	111	40-140
78-59-1	Isophorone	ND	2720	1750	64	40-140
91-57-6	2-Methylnaphthalene	299	2720	2380	77	40-140
91-20-3	Naphthalene	662	2720	2730	76	40-140
98-95-3	Nitrobenzene	ND	2720	1720	63	40-140
621-64-7	N-Nitroso-di-n-propylamine	ND	2720	1950	72	40-140
86-30-6	N-Nitrosodiphenylamine	ND	2720	2250	83	40-140
85-01-8	Phenanthrene	6180	2720	11600	200* b	40-140
129-00-0	Pyrene	9050	2720	13200	153* b	40-140
120-82-1	1,2,4-Trichlorobenzene	ND	2720	1960	72	40-140
CAS No.	Surrogate Recoveries	MS	M96289	)-4 Lin	nits	

CAS No.	<b>Surrogate Recoveries</b>	MS	M96289-4	Limits
267 12 4	2 Elyananhanal	60%	59%	30-130%
367-12-4	2-Fluorophenol			
4165-62-2	Phenol-d5	62%	61%	30-130%
118-79-6	2,4,6-Tribromophenol	67%	66%	30-130%
4165-60-0	Nitrobenzene-d5	64%	63%	30-130%
321-60-8	2-Fluorobiphenyl	74%	73%	30-130%
1718-51-0	Terphenyl-d14	84%	72%	30-130%



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**Method:** SW846 8270C

## **Matrix Spike Summary**

Job Number: M96257

**Account:** HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP23538-MS	S19961.D	1	12/13/10	PR	12/06/10	OP23538	MSS826
M96289-4	S19975.D	1	12/13/10	PR	12/06/10	OP23538	MSS826

The QC reported here applies to the following samples:

- (a) Outside control limits due to possible matrix interference. Refer to Blank Spike.
- (b) Outside control limits due to high level in sample relative to spike amount.



## Semivolatile Internal Standard Area Summary

**Job Number:** M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Check Std:MSS826-CC822Injection Date:12/13/10Lab File ID:S19952.DInjection Time:11:46

**Instrument ID:** GCMSS Method: SW846 8270C

	IS 1 AREA	RT	IS 2 AREA R	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
GL 1 G.1	210502	6.02	056110 7		41.500.4	0.62	C 12010	11.04	(1120)	1 6 01	55.6021	10.44
Check Std	218593	6.03		.40	415984	9.63	642010		611386	16.21	576931	18.44
Upper Limit <sup>a</sup>	437186	6.53	1712236 7		831968	10.13	1284020		1222772		1153862	
Lower Limit b	109297	5.53	428059 6	0.90	207992	9.13	321005	11.34	305693	15.71	288466	17.94
Lab	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
Sample ID	AREA	RT	AREA R	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
M95727-18R	253155	6.03	1033434 7	.40	509342	9.63	779482	11.84	676573	16.20	632061	18.44
OP23575-LB	268236	6.03	1092315 7	.40	527191	9.63	807422	11.84	700043	16.20	651661	18.44
OP23539-MS	228486	6.03	950874 7	.40	455468	9.63	686679	11.84	599528	16.20	592392	18.44
OP23539-MSD	223064	6.03	943654 7	.40	449794	9.63	697178	11.84	602191	16.20	588296	18.44
OP23538-MB	296654	6.03	1207985 7	.40	589630	9.63	863756	11.84	706856	16.20	607635	18.44
OP23538-BS	290714	6.04	1143012 7	.40	546797	9.63	835725	11.85	714481	16.20	613248	18.44
OP23538-BSD	266967	6.04	1020014 7	.40	487989	9.63	741936	11.85	629424	16.20	545823	18.44
OP23538-MS	208816	6.04	874854 7	.40	443125	9.63	661758	11.85	536045	16.22	593353	18.46
M96257-1	273180	6.04	1113488 7	.40	531230	9.63	754381	11.85	599834	16.21	632022	18.45
M96257-2	225199	6.03	946882 7	.40	462675	9.63	702612	11.84	606601	16.22	691106	18.46
M96257-3	299266	6.04	1234710 7	.40	570721	9.63	795647	11.84	629394	16.21	702738	18.45
M96257-4	297067	6.04	1247347 7	.40	607422	9.63	891503	11.84	664830	16.20	702269	18.44
M96257-5	270917	6.04	1113683 7		537969	9.63	773134	11.84	591541	16.21	696203	18.45
M96257-6	272963	6.03	1136767 7	.40	535584	9.63	761166	11.84	607855	16.21	706579	18.45
M96257-7	267760	6.03	1087650 7	.40	514509	9.63	717723	11.84	618555	16.21	760821	18.46
M96257-8	277246	6.04	1100917 7	.40	505804	9.63	708218	11.85	633430	16.22	815021	18.46
M96257-9	241511	6.03	994088 7	.40	479296	9.63	720484	11.84	714946	16.21	809292	18.45
ZZZZZZ	217783	6.04	763338 7	.41	327673	9.65	520832	11.84	512308	16.22	649713	18.46
ZZZZZZ	300527	6.03	1107994 7	.40	466622	9.63	704549	11.85	690055	16.23	936365	18.48
ZZZZZZ	268370	6.04	1084324 7	.40	521379	9.63	745548	11.85	726593	16.22	961904	18.46
M96289-4	246588	6.04	1036194 7		512497	9.63	773685	11.84	691352	16.22	864115	18.47
M96317-5	238584	6.03	986228 7	.40	485782	9.63	753991	11.84	734680	16.21	837998	18.45

**IS 1** = 1,4-Dichlorobenzene-d4

IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12



<sup>(</sup>a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.

<sup>(</sup>b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

## Semivolatile Surrogate Recovery Summary

Job Number: M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Method: SW846 8270C Matrix: SO

### Samples and QC shown here apply to the above method

Lab	Lab						
Sample ID	File ID	S1	<b>S2</b>	S3	<b>S4</b>	S5	<b>S6</b>
M96257-1	S19963.D	62.0	62.0	77.0	63.0	75.0	81.0
M96257-2	S19964.D	61.0	60.0	59.0	58.0	70.0	78.0
M96257-3	S19965.D	67.0	66.0	85.0	65.0	77.0	81.0
M96257-4	S19966.D	59.0	62.0	68.0	64.0	73.0	84.0
M96257-5	S19967.D	62.0	61.0	74.0	62.0	72.0	75.0
M96257-6	S19968.D	38.0	37.0	46.0	35.0	41.0	45.0
M96257-7	S19969.D	60.0	59.0	70.0	60.0	68.0	65.0
M96257-8	S19970.D	64.0	63.0	81.0	67.0	77.0	73.0
M96257-9	S19971.D	66.0	61.0	70.0	63.0	81.0	78.0
OP23538-BS	S19959.D	74.0	73.0	90.0	72.0	85.0	92.0
OP23538-BSD	S19960.D	71.0	69.0	88.0	72.0	85.0	90.0
OP23538-MB	S19958.D	81.0	78.0	93.0	79.0	91.0	106.0
OP23538-MS	S19961.D	60.0	62.0	67.0	64.0	74.0	84.0

# Surrogate Recovery Compounds Limits

<b>S1</b> =	2-Fluorophenol	30-130%
S2 =	Phenol-d5	30-130%
S3 =	2,4,6-Tribromophenol	30-130%
S4 =	Nitrobenzene-d5	30-130%
S5 =	2-Fluorobiphenyl	30-130%
<b>S6</b> =	Terphenyl-d14	30-130%





## GC Volatiles

## QC Data Summaries

## Includes the following where applicable:

- · Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries



Method: MADEP VPH REV 1.1

## **Method Blank Summary**

Job Number: M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample GBH929-MB	File ID BH17817.D	<b>DF</b> 1	<b>Analyzed</b> 12/07/10	By WS	Prep Date	Prep Batch n/a	Analytical Batch GBH929

### The QC reported here applies to the following samples:

CAS No.	Compound	Result	RL	Units Q
	C5- C8 Aliphatics (Unadj.)	ND	5000	ug/kg
	C9- C12 Aliphatics (Unadj.)	ND	5000	ug/kg
	C9- C10 Aromatics (Unadj.)	ND	5000	ug/kg
	C5- C8 Aliphatics	ND	5000	ug/kg
	C9- C12 Aliphatics	ND	5000	ug/kg

CAS No.	Surrogate Recoveries		Limits
615-59-8	2,5-Dibromotoluene 2,5-Dibromotoluene	72%	70-130%
615-59-8		70%	70-130%



Method: MADEP VPH REV 1.1

Blank Spike/Blank Spike Duplicate Summary

Job Number: M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

GBH929-BSP1 BH17820.D 1 12/07/10 WS n/a	n/a	Analytical Batch GBH929 GBH929
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### The QC reported here applies to the following samples:

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
	C5- C8 Aliphatics (Unadj.)	7500	5540	74	5650	75	2	70-130/25
	C9- C12 Aliphatics (Unadj.)	7500	8160	109	8220	110	1	70-130/25
	C9- C10 Aromatics (Unadj.)	2500	2620	105	2600	104	1	70-130/25

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
615-59-8	2,5-Dibromotoluene	83%	93%	70-130%
615-59-8	2,5-Dibromotoluene	80%	89%	70-130%



# 7.3.1

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## Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample M96285-3MS	File ID BH17841.D	-	<b>Analyzed</b> 12/08/10	By WS	Prep Date	Prep Batch	Analytical Batch GBH929
M96285-3MSD	BH17842.D	-	12/08/10	WS	n/a	n/a	GBH929
M96285-3	BH17840.D	1	12/08/10	WS	n/a	n/a	GBH929

The QC reported here applies to the following samples:

Method: MADEP VPH REV 1.1

		M96285	-3	Spike	MS	MS	MSD	MSD		Limits
CAS No.	Compound	ug/kg	Q	ug/kg	ug/kg	<b>%</b>	ug/kg	<b>%</b>	RPD	Rec/RPD

CAS No.	Surrogate Recoveries	MS	MSD	M96285-3	Limits
615-59-8	2,5-Dibromotoluene	125%	122%	109%	70-130%
615-59-8		122%	118%	104%	70-130%



## **Volatile Surrogate Recovery Summary**

Job Number: M96257

Account: HALEYALD Haley & Aldrich

Project: Former Energy International Parcel, MA

**Method:** MADEP VPH REV 1.1 Matrix: SO

### Samples and QC shown here apply to the above method

Lab	Lab		
Sample ID	File ID	<b>S1</b> a	<b>S1</b> b
M96257-1	BH17824.D	88.0	83.0
M96257-2	BH17825.D	128.0	119.0
M96257-3	BH17826.D	122.0	117.0
M96257-4	BH17827.D	119.0	114.0
M96257-5	BH17828.D	122.0	116.0
M96257-6	BH17829.D	126.0	119.0
M96257-7	BH17830.D	107.0	100.0
M96257-8	BH17831.D	109.0	96.0
M96257-9	BH17832.D	128.0	124.0
GBH929-BSD1	BH17819.D	93.0	89.0
GBH929-BSP1	BH17820.D	83.0	80.0
GBH929-MB	BH17817.D	72.0	70.0
M96285-3MS	BH17841.D	125.0	122.0
M96285-3MSD	BH17842.D	122.0	118.0

Surrogate Compounds Recovery Limits

S1 = 2,5-Dibromotoluene

70-130%

- (a) Recovery from GC signal #1
- (b) Recovery from GC signal #2





## GC Semi-volatiles

## QC Data Summaries

## Includes the following where applicable:

- · Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries



Method: MADEP EPH REV 1.1

## **Method Blank Summary**

Job Number: M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample OP23590-MB	File ID BI2720.D	<b>DF</b> 1	<b>Analyzed</b> 12/13/10	By JD	Prep Date 12/10/10	Prep Batch OP23590	Analytical Batch GBI102

### The QC reported here applies to the following samples:

CAS No.	Compound	Result	RL	Units Q
	C11-C22 Aromatics (Unadj.)	ND	18000	ug/kg
	C9-C18 Aliphatics	ND	8800	ug/kg
	C19-C36 Aliphatics	ND	8800	ug/kg
	C11-C22 Aromatics	ND	18000	ug/kg

CAS No.	<b>Surrogate Recoveries</b>		Limits
84-15-1	o-Terphenyl	84%	40-140%
321-60-8	2-Fluorobiphenyl	86%	40-140%
580-13-2	2-Bromonaphthalene	43%	40-140%
3386-33-2	1-Chlorooctadecane	57%	40-140%



Method: MADEP EPH REV 1.1

## Blank Spike/Blank Spike Duplicate Summary

Job Number: M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample OP23590-BS OP23590-BSD	<b>File ID</b> BI2721.D BI2722.D	<b>DF</b> 1	Analyzed 12/13/10 12/13/10	By JD JD	Prep Date 12/10/10 12/10/10	Prep Batch OP23590 OP23590	Analytical Batch GBI102 GBI102

### The QC reported here applies to the following samples:

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
	C11-C22 Aromatics (Unadj.)	69000	75800	110 a	74700	104	1	40-140/25
	C9-C18 Aliphatics	25900	16400	63	16800	63	2	40-140/25
	C19-C36 Aliphatics	34500	23800	69	25000	70	5	40-140/25

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
84-15-1 321-60-8 580-13-2 3386-33-2	o-Terphenyl 2-Fluorobiphenyl 2-Bromonaphthalene 1-Chlorooctadecane	93% 92% 46% 52%	85% 86% 56% 48%	40-140% 40-140% 40-140% 40-140%

Sample	Compound	Col #1	Col #2	Breakthrough	Limit
OP23590-BS	2-Methylnaphthalene	3070	467	13.2% * 20.3% * 1.2% 2.9%	5.0
OP23590-BS	Naphthalene	2680	681		5.0
OP23590-BSD	2-Methylnaphthalene	3410	42.8		5.0
OP23590-BSD	Naphthalene	3160	95.2		5.0

<sup>(</sup>a) Aromatic breakthrough (naphthalene and/or 2-methylnaphthalene) exceeded 5% method limit. Results confirmed by refractionation.



Method: MADEP EPH REV 1.1

## Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample OP23590-MS OP23590-MSD	<b>File ID</b> BI2729.D BI2731.D	<b>DF</b> 1	<b>Analyzed</b> 12/13/10 12/13/10	By JD JD	<b>Prep Date</b> 12/10/10 12/10/10	Prep Batch OP23590 OP23590	Analytical Batch GBI102 GBI102
M96289-4	BI2740.D	1	12/14/10	JD	12/10/10	OP23590	GBI102

### The QC reported here applies to the following samples:

CAS No.	Compound	M96289-4 ug/kg Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
	C11-C22 Aromatics (Unadj.)	219000	75400	261000	56	393000	221* a	40* b	40-140/25
	C9-C18 Aliphatics	ND	28300	21800	77	25400	86	15	40-140/25
	C19-C36 Aliphatics	22500	37700	37600	40	43400	53	14	40-140/25

CAS No.	<b>Surrogate Recoveries</b>	MS	MSD	M96289-4	Limits
84-15-1	o-Terphenyl	113%	130%	117%	40-140%
321-60-8	2-Fluorobiphenyl	82%	86%	91%	40-140%
580-13-2	2-Bromonaphthalene	64%	58%	64%	40-140%
3386-33-2	1-Chlorooctadecane	45%	49%	46%	40-140%

<sup>(</sup>a) Outside control limits due to high level in sample relative to spike amount.



<sup>(</sup>b) Outside control limits due to possible matrix interference.

## Semivolatile Surrogate Recovery Summary

**Job Number:** M96257

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Method: MADEP EPH REV 1.1 Matrix: SO

### Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 <sup>a</sup>	S2 <sup>a</sup>	S3 a	<b>S4</b> <sup>b</sup>
M96257-1	BI2726.D	95.0	84.0	63.0	45.0
M96257-2	BI2753.D	167.0* <sup>c</sup>	89.0	71.0	62.0
M96257-3	BI2735.D	120.0	80.0	74.0	41.0
M96257-4	BI2789.D	62.0	71.0	43.0	57.0
M96257-5	BI2748.D	87.0	95.0	82.0	41.0
M96257-6	BI2791.D	122.0	93.0	67.0	47.0
M96257-7	BI2780.D	101.0	92.0	62.0	29.0* d
M96257-8	BI2744.D	107.0	86.0	59.0	37.0* e
M96257-9	BI2737.D	122.0	91.0	64.0	41.0
OP23590-BS	BI2721.D	93.0	92.0	46.0	52.0
OP23590-BSD	BI2722.D	85.0	86.0	56.0	48.0
OP23590-MB	BI2720.D	84.0	86.0	43.0	57.0
OP23590-MS	BI2729.D	113.0	82.0	64.0	45.0
OP23590-MSD	BI2731.D	130.0	86.0	58.0	49.0

# Surrogate Recovery Compounds Limits

S1 = o-Terphenyl	40-140%
S2 = 2-Fluorobiphenyl	40-140%
S3 = 2-Bromonaphthalene	40-140%
S4 = 1-Chlorooctadecane	40-140%

- (a) Recovery from GC signal #1
- (b) Recovery from GC signal #2
- (c) Outside control limits due to matrix interference. Confirmed by reanalysis.
- (d) Outside control limits due to possible matrix interference. Confirmed by reanalysis.
- (e) Outside control limits due to possible matrix interference. Confirmed by refractionation.





## Metals Analysis

QC Data Summaries

## Includes the following where applicable:

- · Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries



#### BLANK RESULTS SUMMARY Part 2 - Method Blanks

# Login Number: M96257 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16330 Matrix Type: SOLID Methods: SW846 6010C Units: mg/kg

Prep Date: 12/02/10

Prep Date:					12/02/10
Metal	RL	IDL	MDL	MB raw	final
Aluminum	20	1.5	1.5		
Antimony	1.0	.09	.12	0.0	<1.0
Arsenic	1.0	.1	.13	-0.040	<1.0
Barium	5.0	.042	.2	0.20	<5.0
Beryllium	0.40	.014	.015	0.010	<0.40
Boron	10	.033	.12		
Cadmium	0.40	.011	.017	0.010	<0.40
Calcium	500	2.3	2.3		
Chromium	1.0	.047	.047	0.050	<1.0
Cobalt	5.0	.017	.017		
Copper	2.5	.086	.15		
Gold	5.0	.16	.16		
Iron	10	. 39	.54		
Lead	1.0	.15	.15	0.050	<1.0
Magnesium	500	3.7	4.2		
Manganese	1.5	.011	.092		
Molybdenum	10	.021	.026		
Nickel	4.0	.021	.028	0.010	<4.0
Palladium	5.0	. 24	.24		
Platinum	5.0	.73	.73		
Potassium	500	2.9	3.6		
Selenium	1.0	.11	.19	0.040	<1.0
Silicon	10	.12	.47		
Silver	0.50	.06	.06	0.0	<0.50
Sodium	500	1.5	4.2		
Strontium	1.0	.013	.015		
Thallium	1.0	.07	.12	0.040	<1.0
Tin	10	.036	.036		
Titanium	5.0	.057	.057		
Tungsten	10	.48	.57		
Vanadium	1.0	.073	.073	-0.010	<1.0
Zinc	2.0	.024	.28	0.10	<2.0

Associated samples MP16330: M96257-1, M96257-2, M96257-3, M96257-4, M96257-5, M96257-7, M96257-8, M96257-9



#### BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: M96257
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16330 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

### MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: M96257
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16330 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date: 12/02/10 12/02/10

Prep Date:				12/02/10				12/02/10		
Metal	M96225-8 Original		Spikelot MPICP	% Rec	QC Limits	M96225-8 Original		RPD	QC Limits	
Aluminum										
Antimony	0.52	20.5	51.2	39.0 (a)	75-125	0.52	0.22	81.1 (b)	0-20	
Arsenic	7.8	52.9	51.2	88.1	75-125	7.8	7.9	1.3	0-20	
Barium	165	363	205	96.6	75-125	165	169	2.4	0-20	
Beryllium	0.50	45.5	51.2	87.9	75-125	0.50	0.53	5.8	0-20	
Boron										
Cadmium	0.25	47.1	51.2	91.5	75-125	0.25	0.25	0.0	0-20	
Calcium										
Chromium	20.6	64.7	51.2	86.1	75-125	20.6	19.6	5.0	0-20	
Cobalt										
Copper										
Gold										
Iron										
Lead	338	374	102	35.1 (a)	75-125	338	302	11.3	0-20	
Magnesium										
Manganese										
Molybdenum										
Nickel	15.5	58.5	51.2	84.0	75-125	15.5	14.7	5.3	0-20	
Palladium										
Platinum										
Potassium										
Selenium	0.84	42.8	51.2	81.9	75-125	0.84	0.81	3.6	0-20	
Silicon										
Silver	0.77	20.2	20.5	94.8	75-125	0.77	0.76	1.3	0-20	
Sodium										
Strontium										
Thallium	0.0	43.5	51.2	84.9	75-125	0.0	0.0	NC	0-20	
Tin										
Titanium										
Tungsten										
Vanadium	27.0	73.5	51.2	90.8	75-125	27.0	27.1	0.4	0-20	
Zinc	198	243	51.2	87.9	75-125	198	200	1.0	0-20	

Associated samples MP16330: M96257-1, M96257-2, M96257-3, M96257-4, M96257-5, M96257-7, M96257-8, M96257-8

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### MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: M96257 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16330 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits  $% \left( 1,0\right) =0$ 

- (N) Matrix Spike Rec. outside of QC limits
- (anr) Analyte not requested
- (a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.Post spike within acceptable range.
- (b) RPD acceptable due to low duplicate and sample concentrations.



Login Number: M96257

Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16330 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date: 12/02/10 12/02/10

Prep Date:			12/02/10	)		12/02/10			
Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	BSD Result	Spikelo MPICP	t % Rec	BSD RPD	QC Limit
Aluminum									
Antimony	46.8	50	93.6	80-120	47.1	50	94.2	0.6	20
Arsenic	47.8	50	95.6	80-120	47.9	50	95.8	0.2	20
Barium	192	200	96.0	80-120	192	200	96.0	0.0	20
Beryllium	48.2	50	96.4	80-120	47.8	50	95.6	0.8	20
Boron									
Cadmium	49.5	50	99.0	80-120	49.8	50	99.6	0.6	20
Calcium									
Chromium	48.9	50	97.8	80-120	48.6	50	97.2	0.6	20
Cobalt									
Copper									
Gold									
Iron									
Lead	92.9	100	92.9	80-120	93.2	100	93.2	0.3	20
Magnesium									
Manganese									
Molybdenum									
Nickel	48.2	50	96.4	80-120	48.5	50	97.0	0.6	20
Palladium									
Platinum									
Potassium									
Selenium	47.8	50	95.6	80-120	48.0	50	96.0	0.4	20
Silicon									
Silver	20.5	20	102.5	80-120	20.3	20	101.5	1.0	20
Sodium									
Strontium									
Thallium	48.8	50	97.6	80-120	48.8	50	97.6	0.0	20
Tin									
Titanium									
Tungsten									
Vanadium	48.5	50	97.0	80-120	48.3	50	96.6	0.4	20
Zinc	47.9	50	95.8	80-120	48.1	50	96.2	0.4	20

Associated samples MP16330: M96257-1, M96257-2, M96257-3, M96257-4, M96257-5, M96257-7, M96257-8, M96257-9





Login Number: M96257
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16330 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

# Login Number: M96257 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16330 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date: 12/02/10

TTCP Date.			12/02/10	1
Metal	LCS Result	Spikelot MPLCS70		QC Limits
Aluminum				
Antimony	95.4	121	78.8	8-219
Arsenic	103	109	94.5	83-117
Barium	315	325	96.9	83-117
Beryllium	89.1	92.1	96.7	84-116
Boron				
Cadmium	111	110	100.9	81-119
Calcium				
Chromium	88.1	93.4	94.3	81-120
Cobalt				
Copper				
Gold				
Iron				
Lead	137	152	90.1	79-121
Magnesium				
Manganese				
Molybdenum				
Nickel	108	109	99.1	81-118
Palladium				
Platinum				
Potassium				
Selenium	197	207	95.2	79-120
Silicon				
Silver	54.1	51.9	104.2	66-134
Sodium				
Strontium				
Thallium	166	171	97.1	78-122
Tin				
Titanium				
Tungsten				
Vanadium	102	110	92.7	77-124
Zinc	280	299	93.6	82-118

Associated samples MP16330: M96257-1, M96257-2, M96257-3, M96257-4, M96257-5, M96257-7, M96257-8, M96257-8

Login Number: M96257
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16330 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

### SERIAL DILUTION RESULTS SUMMARY

# Login Number: M96257 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16330 Methods: SW846 6010C Matrix Type: SOLID Units: ug/l

Prep Date: 12/02/10

TICP Date.			12/02/10	
Metal	M96225-8 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony	5.10	4.50	11.8 (a)	0-10
Arsenic	75.9	80.4	5.9	0-10
Barium	1610	1710	6.1	0-10
Beryllium	4.90	5.30	8.2	0-10
Boron				
Cadmium	2.40	2.30	4.2	0-10
Calcium				
Chromium	201	217	7.8	0-10
Cobalt				
Copper				
Gold				
Iron				
Lead	3300	3600	9.0	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel	151	166	9.6	0-10
Palladium				
Platinum				
Potassium				
Selenium	8.20	8.80	7.3	0-10
Silicon				
Silver	7.50	7.70	2.7	0-10
Sodium				
Strontium				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Tungsten				
Vanadium	264	283	7.1	0-10
Zinc	1930	2150	11.3 (b)	0-10

Associated samples MP16330: M96257-1, M96257-2, M96257-3, M96257-4, M96257-5, M96257-7, M96257-8, M96257-9

### SERIAL DILUTION RESULTS SUMMARY

Login Number: M96257 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16330 Methods: SW846 6010C Matrix Type: SOLID Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits  $% \left( 1,0\right) =0$ 

- (anr) Analyte not requested
- (a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

  (b) Serial dilution indicates possible matrix interference.



Login Number: M96257
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

Prep Date: 12/02/10

Prep Date:									12/02/1	0
Metal	Sample ml	Final ml	M96225-8	B Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony	9.9	10	5.1	5.049	24.1	.1	2	20	95.3	-
Arsenic										
Barium										
Beryllium										
Boron										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Gold										
Iron										
Lead										
Magnesium										
Manganese										
Molybdenum										
Nickel										
Palladium										
Platinum										
Potassium										
Selenium										
Silicon										
Silver										
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Tungsten										
Vanadium										
Zinc										

Associated samples MP16330: M96257-1, M96257-2, M96257-3, M96257-4, M96257-5, M96257-7, M96257-8, M96257-9

Login Number: M96257
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16330 Methods: SW846 6010C Matrix Type: SOLID Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (\*\*) Corr. sample result = Raw \* (sample volume / final volume) (anr) Analyte not requested

Login Number: M96257
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16330 Methods: SW846 6010C Matrix Type: SOLID Units: ug/l

Prep Date: 12/02/10

Metal	Sample ml	Final ml	M96225-8 Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Boron										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Gold										
Iron										
Lead	9.9	10	3303	3269.97	8789	.1	660	6600	83.6	-
Magnesium										
Manganese										
Molybdenum										
Nickel										
Palladium										
Platinum										
Potassium										
Selenium										
Silicon										
Silver										
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Tungsten										
Vanadium										
Zinc										

Associated samples MP16330: M96257-1, M96257-2, M96257-3, M96257-4, M96257-5, M96257-7, M96257-8, M96257-9

188 of 221
ACCUTEST
M96257
LABORATORIES

Login Number: M96257

Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16330 Methods: SW846 6010C Matrix Type: SOLID Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (\*\*) Corr. sample result = Raw \* (sample volume / final volume) (anr) Analyte not requested

## BLANK RESULTS SUMMARY Part 2 - Method Blanks

# Login Number: M96257 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16331 Methods: SW846 7471A Matrix Type: SOLID Units: mg/kg

Prep Date: 12/03/10

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.033	.0047	.0055	0.011	<0.033

Associated samples MP16331: M96257-1, M96257-2, M96257-3, M96257-4, M96257-5, M96257-7, M96257-8, M96257-9

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

#### MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: M96257
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16331 Methods: SW846 7471A Matrix Type: SOLID Units: mg/kg

Prep Date: 12/03/10	12/03/10
---------------------	----------

Metal	M96199-5 Original	DUP	RPD	QC Limits	M96199-5 Original		Spikelot HGRWS1	% Rec	QC Limits
Mercury	0.53	0.65	20.3 (a)	0-20	0.53	1.2	0.518	129.3(b)	75-125

Associated samples MP16331: M96257-1, M96257-2, M96257-3, M96257-4, M96257-5, M96257-7, M96257-8, M96257-9

Results < IDL are shown as zero for calculation purposes

- (\*) Outside of QC limits
- (N) Matrix Spike Rec. outside of QC limits
- (anr) Analyte not requested
- (a) High RPD due to possible matrix interference and/or sample non-homogeneity.
- (b) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.



Login Number: M96257

Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16331 Methods: SW846 7471A Matrix Type: SOLID Units: mg/kg

Prep Date: 12/03/10 12/03/10

Metal	BSP Result	Spikelot HGRWS1	% Rec	QC Limits	BSD Result	Spikelot HGRWS1	% Rec	BSD RPD	QC Limit
Mercury	0.47	0.5	94.0	80-120	0.47	0.5	94.0	0.0	30

Associated samples MP16331: M96257-1, M96257-2, M96257-3, M96257-4, M96257-5, M96257-7, M96257-8, M96257-9

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested



Login Number: M96257
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16331 Methods: SW846 7471A Matrix Type: SOLID Units: mg/kg

Prep Date: 12/03/10

Associated samples MP16331: M96257-1, M96257-2, M96257-3, M96257-4, M96257-5, M96257-7, M96257-8, M96257-9

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

#### BLANK RESULTS SUMMARY Part 2 - Method Blanks

# Login Number: M96257 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16338 Matrix Type: SOLID Methods: SW846 6010C Units: mg/kg

Prep Date:

12/06/10

Metal	RL	IDL	MDL	MB raw	final
Aluminum	20	1.5	1.5		
Antimony	1.0	.09	.12	-0.010	<1.0
Arsenic	1.0	.1	.13	-0.010	<1.0
Barium	5.0	.042	.2	0.18	<5.0
Beryllium	0.40	.014	.015	0.0	<0.40
Boron	10	.033	.12		
Cadmium	0.40	.011	.017	0.0	<0.40
Calcium	500	2.3	2.3		
Chromium	1.0	.047	.047	0.060	<1.0
Cobalt	5.0	.017	.017		
Copper	2.5	.086	.15		
Gold	5.0	.16	.16		
Iron	10	.39	.54		
Lead	1.0	.15	.15	0.030	<1.0
Magnesium	500	3.7	4.2		
Manganese	1.5	.011	.092		
Molybdenum	10	.021	.026		
Nickel	4.0	.021	.028	0.030	<4.0
Palladium	5.0	.24	.24		
Platinum	5.0	.73	.73		
Potassium	500	2.9	3.6		
Selenium	1.0	.11	.19	0.030	<1.0
Silicon	10	.12	.47		
Silver	0.50	.06	.06	0.050	<0.50
Sodium	500	1.5	4.2		
Strontium	1.0	.013	.015		
Thallium	1.0	.07	.12	0.23	<1.0
Tin	10	.036	.036		
Titanium	5.0	.057	.057		
Tungsten	10	.48	.57		
Vanadium	1.0	.073	.073	0.0	<1.0
Zinc	2.0	.024	.28	0.27	<2.0

Associated samples MP16338: M96257-6



#### BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: M96257
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16338 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

### MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

### Login Number: M96257 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16338 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date:	12/06/10	12/06/10

Prep Date:				12/06/10				12/06/10	
Metal	M96289-4 Original		Spikelot MPICP	% Rec	QC Limits	M96289-4 Original		RPD	QC Limits
Aluminum									
Antimony	63.6	63.4	42.2	-0.5 (a)	75-125	63.6	36.8	53.4 (d)	0-20
Arsenic	13.1	52.7	42.2	93.9	75-125	13.1	10.9	18.3	0-20
Barium	97.8	207	169	64.7 (a)	75-125	97.8	48.6	67.2 (d)	0-20
Beryllium	0.28	37.0	42.2	87.1	75-125	0.28	0.29	3.5	0-20
Boron									
Cadmium	0.27	43.2	42.2	101.8	75-125	0.27	0.26	3.8	0-20
Calcium									
Chromium	13.1	55.7	42.2	101.0	75-125	13.1	12.4	5.5	0-20
Cobalt									
Copper									
Gold									
Iron									
Lead	1690	1160	84.3	-628.3(b	75-125	1690	1010	50.4 (d)	0-20
Magnesium									
Manganese									
Molybdenum									
Nickel	14.5	76.0	42.2	145.8(c)	75-125	14.5	17.2	17.0	0-20
Palladium									
Platinum									
Potassium									
Selenium	0.0	40.0	42.2	94.8	75-125	0.0	0.0	NC	0-20
Silicon									
Silver	5.2	17.9	16.9	75.3	75-125	5.2	0.80	146.7(d)	0-20
Sodium									
Strontium									
Thallium	0.0	39.5	42.2	93.7	75-125	0.0	0.0	NC	0-20
Tin									
Titanium									
Tungsten									
Vanadium	21.1	60.6	42.2	93.7	75-125	21.1	22.1	4.6	0-20
Zinc	340	338	42.2	-4.7 (b)	75-125	340	302	11.8	0-20
Aggagiated as	mmlog MD16	220 - 14062	) F 7 6						

Associated samples MP16338: M96257-6



#### MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: M96257
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16338 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date:

Metal

 ${\tt Results} \, < \, {\tt IDL} \, \, {\tt are } \, \, {\tt shown} \, \, {\tt as } \, \, {\tt zero} \, \, \, {\tt for } \, \, {\tt calculation} \, \, {\tt purposes} \, \,$ 

- (\*) Outside of QC limits
- (N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

- (a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity. Post spike within acceptable range.
- (b) Spike amount low relative to the sample amount. Refer to  $\$ lab control or spike blank for recovery information.
- (c) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity. Post spike is not within acceptable range.
- $\hbox{(d) High RPD due to possible matrix interference and/or sample non-homogeneity.}\\$



Login Number: M96257
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16338 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date: 12/06/10 12/06/10

Prep Date:			12/06/10	1		12/06/10			
Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	BSD Result	Spikelot MPICP	% Rec	BSD RPD	QC Limit
Aluminum									
Antimony	49.3	50	98.6	80-120	48.7	50	97.4	1.2	20
Arsenic	50.1	50	100.2	80-120	49.4	50	98.8	1.4	20
Barium	187	200	93.5	80-120	182	200	91.0	2.7	20
Beryllium	46.7	50	93.4	80-120	45.3	50	90.6	3.0	20
Boron									
Cadmium	51.6	50	103.2	80-120	50.9	50	101.8	1.4	20
Calcium									
Chromium	49.5	50	99.0	80-120	48.8	50	97.6	1.4	20
Cobalt									
Copper									
Gold									
Iron									
Lead	97.5	100	97.5	80-120	96.6	100	96.6	0.9	20
Magnesium									
Manganese									
Molybdenum									
Nickel	50.4	50	100.8	80-120	49.8	50	99.6	1.2	20
Palladium									
Platinum									
Potassium									
Selenium	50.2	50	100.4	80-120	49.3	50	98.6	1.8	20
Silicon									
Silver	21.0	20	105.0	80-120	20.7	20	103.5	1.4	20
Sodium									
Strontium									
Thallium	51.2	50	102.4	80-120	50.4	50	100.8	1.6	20
Tin									
Titanium									
Tungsten									
Vanadium	51.8	50	103.6	80-120	51.2	50	102.4	1.2	20
Zinc	50.2	50	100.4	80-120	49.4	50	98.8	1.6	20

Associated samples MP16338: M96257-6



Login Number: M96257
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16338 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

Login Number: M96257
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16338 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date: 12/06/10

Metal	LCS Result	Spikelot MPLCS70		QC Limits
Aluminum				
Antimony	78.0	121	64.5	8-219
Arsenic	104	109	95.4	83-117
Barium	287	325	88.3	83-117
Beryllium		92.1	88.6	84-116
Boron				
Cadmium	114	110	103.6	81-119
Calcium				
	87.0	93.4	93.1	81-120
Cobalt				
Copper				
Gold				
Iron				
Lead	145	152	95.4	79-121
Magnesium	143	102	JJ.4	79-121
Malybdanum				
Molybdenum Nickel	110	100	100.0	01 110
	110	109	100.9	81-118
Palladium				
Platinum				
Potassium	0.01	0.00	0.7.1	E0 100
Selenium	201	207	97.1	79-120
Silicon				
Silver	51.8	51.9	99.8	66-134
Sodium				
Strontium				
Thallium	167	171	97.7	78-122
Tin				
Titanium				
Tungsten				
Vanadium	104	110	94.5	77-124
Zinc	283	299	94.6	82-118

Associated samples MP16338: M96257-6

Login Number: M96257
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16338 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

### SERIAL DILUTION RESULTS SUMMARY

### Login Number: M96257 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16338 Methods: SW846 6010C Matrix Type: SOLID Units: ug/l

Prep Date: 12/06/10

Metal	M96289-4 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony	754	770	2.2	0-10
Arsenic	156	155	0.6	0-10
Barium	1160	1210	4.4	0-10
Beryllium	3.30	3.10	6.1	0-10
Boron				
Cadmium	3.20	2.20	31.3 (a)	0-10
Calcium				
Chromium	156	166	6.4	0-10
Cobalt				
Copper				
Gold				
Iron				
Lead	20000	20200	0.8	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel	171	183	6.8	0-10
Palladium				
Platinum				
Potassium				
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	61.5	65.7	6.8	0-10
Sodium				
Strontium				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Tungsten				
Vanadium	250	258	3.3	0-10

Associated samples MP16338: M96257-6

### SERIAL DILUTION RESULTS SUMMARY

Login Number: M96257
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16338 Methods: SW846 6010C Matrix Type: SOLID Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

- (a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- (b) Serial dilution indicates possible matrix interference.

C

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### POST DIGESTATE SPIKE SUMMARY

Login Number: M96257 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

Prep Date: 12/06/10

TICP Date.									12/00/10		
Metal	Sample ml	Final ml	M96289-4 Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limit	
Aluminum											
Antimony	9.9	10.1	753.7	738.7752	1954	.1	150	1485.149	81.8	-	
Arsenic											
Barium	9.9	10.1	1160	1137.03	3253	.1	230	2277.228	92.9	-	
Beryllium											
Boron											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Gold											
Iron											
Lead											
Magnesium											
Manganese											
Molybdenum											
Nickel	9.9	10.1	171.4	168.0059	743.5	.1	35	346.5347	166.1	-	
Palladium											
Platinum											
Potassium											
Selenium											
Silicon											
Silver											
Sodium											
Strontium											
Thallium											
Tin											
Titanium											
Tungsten											
Vanadium											
Zinc											

Associated samples MP16338: M96257-6

### POST DIGESTATE SPIKE SUMMARY

Login Number: M96257
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16338 Methods: SW846 6010C Matrix Type: SOLID Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (\*\*) Corr. sample result = Raw \* (sample volume / final volume) (anr) Analyte not requested

#### BLANK RESULTS SUMMARY Part 2 - Method Blanks

# Login Number: M96257 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16339 Methods: SW846 6010C Matrix Type: LEACHATE Units:  $\mbox{mg/l}$ 

Prep Date: 12/07/10

Prep Date.					12/07/10
Metal	RL	IDL	MDL	MB raw	final
Aluminum	0.20	.015	.015		
Antimony	0.0060	.0009	.0012		
Arsenic	0.010	.001	.0019		
Barium	0.50	.00042	.0037		
Beryllium	0.0040	.00014	.0002		
Boron	0.10	.00033	.0015		
Cadmium	0.0040	.00011	.00012		
Calcium	5.0	.023	.039		
Chromium	0.010	.00047	.00053		
Cobalt	0.050	.00017	.00028		
Copper	0.025	.00086	.00086		
Gold	0.050	.0016	.0017		
Iron	0.10	.0039	.0041		
Lead	0.010	.0015	.0015	0.00040	<0.010
Magnesium	5.0	.037	.037		
Manganese	0.015	.00011	.0009		
Molybdenum	0.10	.00021	.00064		
Nickel	0.040	.00021	.0003		
Palladium	0.050	.0024	.0025		
Platinum	0.050	.0073	.0073		
Potassium	5.0	.029	.03		
Selenium	0.010	.0011	.0017		
Silicon	0.10	.0012	.0072		
Silver	0.0050	.0006	.0006		
Sodium	5.0	.015	.031		
Strontium	0.010	.00013	.00031		
Thallium	0.0050	.0007	.00074		
Tin	0.10	.00036	.00043		
Titanium	0.050	.00057	.00057		
Tungsten	0.10	.0048	.012		
Vanadium	0.010	.00073	.0011		
Zinc	0.10	.00024	.002		

Associated samples MP16339: M96257-1A, M96257-2A, M96257-3A, M96257-4A, M96257-5A, M96257-6A, M96257-7A, M96257-8A, M96257-9A



#### BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: M96257
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16339 Methods: SW846 6010C Matrix Type: LEACHATE Units:  $\mbox{mg/l}$ 

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

#### MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: M96257

Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16339 Methods: SW846 6010C Matrix Type: LEACHATE Units: mg/1

12/07/10 Prep Date: 12/07/10 M96225-8A M96225-8A Spikelot QC QC Limits Metal Original MS MPICP % Rec Limits Original DUP RPD Aluminum Antimony Arsenic anr Barium anr Beryllium Boron Cadmium anr Calcium Chromium anr Cobalt Copper Gold Iron Lead 0.50 1.5 1.0 100.0 75-125 0.50 0.51 2.0 0-20 Magnesium Manganese Molybdenum Nickel anr Palladium Platinum Potassium Selenium anr Silicon Silver anr Sodium Strontium Thallium Tin Titanium Tungsten Vanadium

Associated samples MP16339: M96257-1A, M96257-2A, M96257-3A, M96257-4A, M96257-5A, M96257-6A, M96257-7A, M96257-8A, M96257-9A

Zinc



### MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: M96257

Account: HALEYALD - Haley & Aldrich

Project: Former Energy International Parcel, MA

QC Batch ID: MP16339 Methods: SW846 6010C Matrix Type: LEACHATE Units:  $\mbox{mg/l}$ 

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (N) Matrix Spike Rec. outside of QC limits (anr) Analyte not requested

Login Number: M96257

Account: HALEYALD - Haley & Aldrich

Project: Former Energy International Parcel, MA

QC Batch ID: MP16339 Methods: SW846 6010C Matrix Type: LEACHATE Units:  $\mbox{mg/l}$ 

71							J.		
Prep Date:			12/07/10					12/07/10	
Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	BSD Result	Spikelot MPICP	% Rec	BSD RPD	QC Limit
Aluminum									
Antimony									
Arsenic	anr								
Barium	anr								
Beryllium									
Boron									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt									
Copper									
Gold									
Iron									
Lead	0.95	1.0	95.0	80-120	0.94	1.0	94.0	1.1	20
Magnesium									
Manganese									
Molybdenum									
Nickel	anr								
Palladium									
Platinum									
Potassium									
Selenium	anr								
Silicon									
Silver	anr								
Sodium									
Strontium									
Thallium									
Tin									
Titanium									
Tungsten									
Vanadium									
Zinc									

Associated samples MP16339: M96257-1A, M96257-2A, M96257-3A, M96257-4A, M96257-5A, M96257-6A, M96257-7A, M96257-8A, M96257-9A



Login Number: M96257
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16339 Methods: SW846 6010C Matrix Type: LEACHATE Units:  $\mbox{mg/l}$ 

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

### SERIAL DILUTION RESULTS SUMMARY

Login Number: M96257

Account: HALEYALD - Haley & Aldrich

Project: Former Energy International Parcel, MA

QC Batch ID: MP16339 Methods: SW846 6010C Matrix Type: LEACHATE Units: ug/l

Prep Date: 12/07/10

Metal	M96225-8. Original	A SDL 1:5	%DIF	QC Limits	
Aluminum					
Antimony					
Arsenic	anr				
Barium	anr				
Beryllium					
Boron					
Cadmium	anr				
Calcium					
Chromium	anr				
Cobalt					
Copper					
Gold					
Iron					
Lead	503	520	3.4	0-10	
Magnesium					
Manganese					
Molybdenum					
Nickel	anr				
Palladium					
Platinum					
Potassium					
Selenium	anr				
Silicon					
Silver	anr				
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Tungsten					
Vanadium					
Zinc					

Associated samples MP16339: M96257-1A, M96257-2A, M96257-3A, M96257-4A, M96257-5A, M96257-6A, M96257-7A, M96257-8A, M96257-9A



### SERIAL DILUTION RESULTS SUMMARY

Login Number: M96257
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16339 Methods: SW846 6010C Matrix Type: LEACHATE Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested



### BLANK RESULTS SUMMARY Part 2 - Method Blanks

### Login Number: M96257 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16345 Methods: SW846 7471A Matrix Type: SOLID Units: mg/kg

Prep Date: 12/07/10

Associated samples MP16345: M96257-6

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits  $\bar{\ }$ 

### MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: M96257 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16345 Methods: SW846 7471A Matrix Type: SOLID Units: mg/kg

12/07/10 12/07/10 Prep Date:

Metal	M96289 Origin		Spikelo: HGRWS1	t % Rec	QC Limits	M96289 Origin		RPD	QC Limits	
Mercury	1.6	2.2	0.518	115.8	75-125	1.6	1.7	6.1	0-20	

Associated samples MP16345: M96257-6

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits  $\hfill \hfill$ 

(N) Matrix Spike Rec. outside of QC limits



Login Number: M96257 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16345 Matrix Type: SOLID

Methods: SW846 7471A Units: mg/kg

Prep Date:

12/07/10

12/07/10

Metal	BSP Result	Spikelot HGRWS1		QC Limits	BSD Result	Spikelot HGRWS1		BSD RPD	QC Limit
Mercury	0.50	0.5	100.0	80-120	0.51	0.5	102.0	2.0	30

Associated samples MP16345: M96257-6

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits  $\begin{tabular}{ll} \end{tabular}$ 



Login Number: M96257 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16345 Matrix Type: SOLID

Methods: SW846 7471A Units: mg/kg

Prep Date:

12/07/10

Metal	LCS Result	Spikelot HGLCS69		QC Limits
Mercury	15.8	16.3	96.9	71-129

Associated samples MP16345: M96257-6

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits  $\bar{\ }$ 





# General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries



# METHOD BLANK AND SPIKE RESULTS SUMMARY GENERAL CHEMISTRY

Login Number: M96257
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Cyanide Reactivity	GP12387/GN33647	1.5	<1.5	mg/kg	250	30.0	12.0	- 왕
Sulfide Reactivity	GP12388/GN33648	50	<50	mg/kg	400	400	100.0	- 왕

Associated Samples:

Batch GP12387: M96257-1, M96257-2, M96257-3, M96257-4, M96257-5, M96257-6, M96257-7, M96257-8, M96257-9 Batch GP12388: M96257-1, M96257-2, M96257-3, M96257-4, M96257-5, M96257-6, M96257-7, M96257-8, M96257-9 (\*) Outside of QC limits



#### DUPLICATE RESULTS SUMMARY GENERAL CHEMISTRY

Login Number: M96257 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Corrosivity as pH	GN33617	M96225-8		7.7	7.7	0.0	0-%
Cyanide Reactivity	GP12387/GN33647	M96289-4	mg/kg	<1.7	<1.7	0.0	0-20%
Ignitability (Flashpoint)	GN33600	M96199-5	Deg. F	>230	>230	0.0	0-20%
Ignitability (Flashpoint)	GN33658	M96289-4	Deg. F	>230	>230	0.0	0-20%
Redox Potential Vs H2	GN33622	M96225-8	mv	426	423(a)	0.7(a)	0-20%
Solids, Percent	GN33610	M96256-22	용	71.8	74.3	3.4	0-20%
Solids, Percent	GN33620	M96289-4	ક	90.5	90.6	0.1	0-20%
Sulfide Reactivity	GP12388/GN33648	M96289-4	mg/kg	<55	<55	0.0	0-20%

### Associated Samples:

 ${\tt Batch~GN33600:~M96257-1,~M96257-2,~M96257-3,~M96257-4,~M96257-5}$ Batch GN33610: M96257-1, M96257-2, M96257-3, M96257-4, M96257-5

Batch GN33617: M96257-1, M96257-2, M96257-3, M96257-5, M96257-6, M96257-7, M96257-8, M96257-9 Batch GN33620: M96257-6, M96257-7, M96257-8, M96257-9

Batch GN33622: M96257-1, M96257-2, M96257-3, M96257-4, M96257-5, M96257-6, M96257-7, M96257-8, M96257-9

Batch GN33658: M96257-6, M96257-7, M96257-8, M96257-9

Batch GP12387: M96257-1, M96257-2, M96257-3, M96257-4, M96257-5, M96257-6, M96257-7, M96257-8, M96257-9 Batch GP12388: M96257-1, M96257-2, M96257-3, M96257-4, M96257-5, M96257-6, M96257-7, M96257-8, M96257-9

(\*) Outside of QC limits



<sup>(</sup>a) Analysis requested after recommended holding time.

# MATRIX SPIKE RESULTS SUMMARY GENERAL CHEMISTRY

Login Number: M96257
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Cyanide Reactivity	GP12387/GN33647	M96289-4	mg/kg	<1.7	276	32.2	11.7	- %
Sulfide Reactivity	GP12388/GN33648	M96289-4	mg/kg	<55	442	387	87.6	- %

### Associated Samples:

Batch GP12387: M96257-1, M96257-2, M96257-3, M96257-4, M96257-5, M96257-6, M96257-7, M96257-8, M96257-9 Batch GP12388: M96257-1, M96257-2, M96257-3, M96257-4, M96257-5, M96257-6, M96257-7, M96257-8, M96257-9 (\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits





12/18/10



# Technical Report for

Haley & Aldrich

Former Energy International Parcel, MA

06318-502

Accutest Job Number: M96288

Sampling Date: 12/02/10

### Report to:

Haley & Aldrich

jkullmann@haleyaldrich.com

ATTN: Jane Kullmann

Total number of pages in report: 27



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Client Service contact: Kristen Blanchard 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) ISO 17025:2005 (L2235) This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories. Test results relate only to samples analyzed.

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Lab Director

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# **Sample Summary**

Haley & Aldrich

Job No:

M96288

Former Energy International Parcel, MA Project No: 06318-502

Sample Number	Collected Date	Time By	Received	Matri Code		Client Sample ID
M96288-1	12/02/10	08:15 MD	12/02/10	SO	Soil	HA102_0-2'
M96288-2	12/02/10	08:30 MD	12/02/10	SO	Soil	HA102_2-4'
M96288-4	12/02/10	09:15 MD	12/02/10	SO	Soil	HA102_6-8'
M96288-5	12/02/10	09:50 MD	12/02/10	SO	Soil	HA102_8-10'
M96288-6	12/02/10	10:05 MD	12/02/10	SO	Soil	HA102_10-12'
M96288-7	12/02/10	10:30 MD	12/02/10	SO	Soil	HA102_12-14'
M96288-8	12/02/10	11:15 MD	12/02/10	SO	Soil	HA101_0-2'
M96288-9	12/02/10	11:30 MD	12/02/10	SO	Soil	HA101_2-4'
M96288-11	12/02/10	12:30 MD	12/02/10	SO	Soil	HA101_6-8'
M96288-12	12/02/10	12:30 MD	12/02/10	SO	Soil	HA101_8-10'
M96288-13	12/02/10	13:00 MD	12/02/10	SO	Soil	HA101_10-12'
M96288-14	12/02/10	13:15 MD	12/02/10	SO	Soil	HA101_12-14'
M96288-15	12/02/10	13:30 MD	12/02/10	SO	Soil	HA101_14-16'

Soil samples reported on a dry weight basis unless otherwise indicated on result page.





# Sample Summary (continued)

Haley & Aldrich

Job No: M96288

Former Energy International Parcel, MA Project No: 06318-502

Sample	Collected			Matr	ix	Client
Number	Date	Time By	Received	Code	Type	Sample ID
M96288-16	12/02/10	13:40 MD	12/02/10	SO	Soil	HA101_16-19.5'
M96288-17	12/02/10	13:45 MD	12/02/10	SO	Soil	HA101_19.5-20.0'

Soil samples reported on a dry weight basis unless otherwise indicated on result page.





### SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Haley & Aldrich Job No M96288

Site: Former Energy International Parcel, MA Report Date 12/18/2010 6:04:34 PM

6 Sample(s) were collected on 12/02/2010 and were received at Accutest on 12/02/2010 properly preserved, at 1.9 Deg. C and intact. These Samples received an Accutest job number of M96288. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

### Extractables by GC By Method SW846 8082

Matrix SO Batch ID: OP23548

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96256-26MS, M96256-26MSD were used as the QC samples indicated.
- M96288-4 for Decachlorobiphenyl: Outside control limits due to possible matrix interference.

Matrix SO Batch ID: OP23622

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96288-1MS, M96288-1MSD were used as the QC samples indicated.
- M96288-9 for Aroclor 1260: Estimated value due to the presence of other Arochlor pattern.
- M96288-8 for Aroclor 1260: Estimated value due to the presence of other Arochlor pattern.
- RPD of OP23622-MSD for Aroclor 1254: Outside control limits due to possible matrix interference.
- M96288-8, OP23622-MS/MSD for Tetrachloro-m-xylene: Outside control limits due to possible matrix interference.

### Wet Chemistry By Method SM21 2540 B MOD.

Matrix SO Batch ID: GN33703

Sample(s) M96541-5DUP were used as the QC samples for Solids, Percent.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety. The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report (M96288).





Sample Results	
Report of Analysis	



Client Sample ID: HA102\_0-2' Lab Sample ID: M96288-1

SO - Soil Method: SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA **Date Sampled:** 12/02/10 **Date Received:** 12/02/10

Percent Solids: 85.3

File ID DF **Prep Date Prep Batch Analytical Batch** Analyzed By Run #1 YZ63048.D 1 12/16/10 CZ12/13/10 OP23622 GYZ2677 Run #2

**Initial Weight Final Volume** Run #1 15.1 g 10.0 ml Run #2

### **PCB List**

Matrix:

CAS No.	Compound	Result	RL	Units Q
12674-11-2	Aroclor 1016	ND	120	ug/kg
11104-28-2	Aroclor 1221	ND	120	ug/kg
11141-16-5	Aroclor 1232	ND	120	ug/kg
53469-21-9	Aroclor 1242	ND	120	ug/kg
12672-29-6	Aroclor 1248	ND	120	ug/kg
11097-69-1	Aroclor 1254	ND	120	ug/kg
11096-82-5	Aroclor 1260	ND	120	ug/kg
37324-23-5	Aroclor 1262	ND	120	ug/kg
11100-14-4	Aroclor 1268	ND	120	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	72%		30-150%
877-09-8	Tetrachloro-m-xylene	41%		30-150%
2051-24-3	Decachlorobiphenyl	129%		30-150%
2051-24-3	Decachlorobiphenyl	123%		30-150%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



Page 1 of 1

Client Sample ID: HA102\_2-4' Lab Sample ID: M96288-2

15.6 g

Matrix: SO - Soil Method: SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA

**Date Sampled:** 12/02/10 **Date Received:** 12/02/10

**Percent Solids: 95.4** 

File ID DF **Prep Date Analytical Batch** Analyzed By **Prep Batch** Run #1 YZ63128.D 1 12/18/10 CZ12/13/10 OP23622 GYZ6278

Run #2

**Final Volume Initial Weight** 10.0 ml

Run #1 Run #2

### **PCB List**

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	100	ug/kg	
11104-28-2	Aroclor 1221	ND	100	ug/kg	
11141-16-5	Aroclor 1232	ND	100	ug/kg	
53469-21-9	Aroclor 1242	ND	100	ug/kg	
12672-29-6	Aroclor 1248	ND	100	ug/kg	
11097-69-1	Aroclor 1254	ND	100	ug/kg	
11096-82-5	Aroclor 1260	ND	100	ug/kg	
37324-23-5	Aroclor 1262	ND	100	ug/kg	
11100-14-4	Aroclor 1268	ND	100	ug/kg	
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limi	ts
877-09-8	Tetrachloro-m-xylene	115%		30-15	
877-09-8	Tetrachloro-m-xylene	139%		30-15	50%
2051-24-3	Decachlorobiphenyl	138%		30-15	50%
2051-24-3	Decachlorobiphenyl	97%		30-15	50%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



### Page 1 of 1

# **Report of Analysis**

By

CZ

Client Sample ID: HA102\_6-8' Lab Sample ID: M96288-4 Matrix: SO - Soil

File ID

YZ62726.D

Method: SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA

DF

1

Analyzed

12/10/10

**Date Sampled:** 12/02/10 **Date Received:** 12/02/10 **Percent Solids:** 84.3

**Analytical Batch Prep Date Prep Batch** 12/07/10 OP23548 GYZ2665

Run #1 Run #2

**Final Volume Initial Weight** Run #1 10.0 ml 15.2 g

Run #2

### **PCB List**

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	120	ug/kg	
11104-28-2	Aroclor 1221	ND	120	ug/kg	
11141-16-5	Aroclor 1232	ND	120	ug/kg	
53469-21-9	Aroclor 1242	ND	120	ug/kg	
12672-29-6	Aroclor 1248	ND	120	ug/kg	
11097-69-1	Aroclor 1254	ND	120	ug/kg	
11096-82-5	Aroclor 1260	ND	120	ug/kg	
37324-23-5	Aroclor 1262	ND	120	ug/kg	
11100-14-4	Aroclor 1268	ND	120	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its
877-09-8	Tetrachloro-m-xylene	99%		30-1	50%
877-09-8	Tetrachloro-m-xylene	101%		30-1	50%
2051-24-3	Decachlorobiphenyl	156% a		30-1	50%
2051-24-3	Decachlorobiphenyl	105%		30-1	50%

(a) Outside control limits due to possible matrix interference.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Client Sample ID: HA101\_0-2' Lab Sample ID: M96288-8

SO - Soil Method: SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA **Date Sampled:** 12/02/10 **Date Received:** 12/02/10

Percent Solids: 88.5

File ID DF Analyzed By **Prep Date Prep Batch Analytical Batch** 12/18/10 Run #1 YZ63130.D 1 CZ12/13/10 OP23622 GYZ6278 Run #2

**Final Volume Initial Weight** Run #1 10.0 ml 15.2 g

Run #2

**Matrix:** 

### **PCB List**

CAS No.	Compound	Result	RL	Units (	Q
12674-11-2	Aroclor 1016	ND	110	ug/kg	
11104-28-2	Aroclor 1221	ND	110	ug/kg	
11141-16-5	Aroclor 1232	ND	110	ug/kg	
53469-21-9	Aroclor 1242	ND	110	ug/kg	
12672-29-6	Aroclor 1248	ND	110	ug/kg	
11097-69-1	Aroclor 1254	299	110	ug/kg	
11096-82-5	Aroclor 1260 a	187	110	ug/kg	
37324-23-5	Aroclor 1262	ND	110	ug/kg	
11100-14-4	Aroclor 1268	ND	110	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
877-09-8	Tetrachloro-m-xylene	114%		30-150	%
877-09-8	Tetrachloro-m-xylene	1081% b		30-150	%
2051-24-3	Decachlorobiphenyl	147%		30-150	%
2051-24-3	Decachlorobiphenyl	112%		30-150	%

- (a) Estimated value due to the presence of other Arochlor pattern.
- (b) Outside control limits due to possible matrix interference.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



Page 1 of 1

By

CZ

Client Sample ID: HA101\_2-4'
Lab Sample ID: M96288-9
Matrix: SO - Soil

File ID

YZ63132.D

**Method:** SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA

DF

1

Analyzed

12/18/10

**Date Sampled:** 12/02/10 **Date Received:** 12/02/10

Percent Solids: 85.9

Prep DatePrep BatchAnalytical Batch12/13/10OP23622GYZ6278

Run #1 Run #2

Run #1 15.2 g 10.0 ml

Run #2

### **PCB List**

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	110	ug/kg	
11104-28-2	Aroclor 1221	ND	110	ug/kg	
11141-16-5	Aroclor 1232	ND	110	ug/kg	
53469-21-9	Aroclor 1242	ND	110	ug/kg	
12672-29-6	Aroclor 1248	ND	110	ug/kg	
11097-69-1	Aroclor 1254	232	110	ug/kg	
11096-82-5	Aroclor 1260 a	118	110	ug/kg	
37324-23-5	Aroclor 1262	ND	110	ug/kg	
11100-14-4	Aroclor 1268	ND	110	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	3
877-09-8	Tetrachloro-m-xylene	112%		30-150	)%
877-09-8	Tetrachloro-m-xylene	131%		30-150	)%
2051-24-3	Decachlorobiphenyl	141%		30-150	)%
2051-24-3	Decachlorobiphenyl	90%		30-150	)%

(a) Estimated value due to the presence of other Arochlor pattern.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



L

Client Sample ID: HA101\_6-8'
Lab Sample ID: M96288-11
Matrix: SO - Soil

**Method:** SW846 8082 SW846 3540C

**Project:** Former Energy International Parcel, MA

**Date Sampled:** 12/02/10 **Date Received:** 12/02/10

Percent Solids: 92.9

File ID DF **Prep Date Analytical Batch** Analyzed By **Prep Batch** Run #1 YZ62739.D 1 12/10/10 CZ12/07/10 OP23548 **GYZ2666** Run #2

Run #1 15.1 g 10.0 ml
Run #2

### **PCB List**

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	110	ug/kg	
11104-28-2	Aroclor 1221	ND	110	ug/kg	
11141-16-5	Aroclor 1232	ND	110	ug/kg	
53469-21-9	Aroclor 1242	ND	110	ug/kg	
12672-29-6	Aroclor 1248	ND	110	ug/kg	
11097-69-1	Aroclor 1254	ND	110	ug/kg	
11096-82-5	Aroclor 1260	ND	110	ug/kg	
37324-23-5	Aroclor 1262	ND	110	ug/kg	
11100-14-4	Aroclor 1268	ND	110	ug/kg	
				88	
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limit	S
877-09-8	Tetrachloro-m-xylene	92%		30-15	0%
877-09-8	Tetrachloro-m-xylene	92%		30-15	0%
2051-24-3	Decachlorobiphenyl	119%		30-15	
2051-24-3	Decachlorobiphenyl	90%		30-15	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



C



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Parameter Certifications (MA)
- · Chain of Custody
- MCP Form
- Sample Tracking Chronicle



## **Parameter Certification Exceptions**

Job Number: M96288

HALEYALD Haley & Aldrich Account:

Former Energy International Parcel, MA Project:

The following parameters included in this report are exceptions to NELAC certification. The certification status of each is indicated below.

Parameter	CAS#	Method	Mat	Certification Status
Aroclor 1262	37324-23-5	SW846 8082	SO	Certified by SOP MGC204/GC-ECD
Aroclor 1268	11100-14-4	SW846 8082	SO	Certified by SOP MGC204/GC-ECD



Page 1 of 1

	Haley & Aldrich, Inc.								196288
ALDRICH S	165 Medford St., Suite 2200,		CHAIN O	F CUSTO	DDY RE	CORI	)	Phone Fax	(617) 886-7400 (617) 886-7600
	30ston, MA 02129-1400			, , , , , , , , , , , , , , , , , , , ,		·		Page	1 of Z
	5 Every International Pa			Accutest	44.4	DELIVERY		12/2/	
H&A CONTACT	J. Kullman			il borough,	MAP		UND TIME	10 De	4
man contract	J. ROMMAN		CONTACT	KATUBO	<u>~</u>	PROJECT	MANAGER	و ليا	1thy
Sample No.	Date Time Depth Tyr	pe VOA	AABNs PAH only MCP Metals MCP Metals PCBs PCBs VPH Full Suite C-ranges only	Analysis Requested  Cragges only TDH (specify) TCLP (specify) Reactivity anishility	Corresivity	Number of Containers	(special instructions, p	Comments precautions, additions	al method numbers, etc.)
HAW2_0-2	120/10 0815 0-2 Su	1	×		-1	1	Laboratory to use app		ethods, unless otherwise
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HA102_2-4'-6 A	0900 4-6		X	***************************************	-3	1	OPCB:		
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HA102_10-12	1005 10-12				-5				
HA102_12-14					-6				
	1030 12-14				1 -7 1				
HA101-0-2;	1115 0-2'				-8	1			
HA101_2-4;	1130 2-4		<b>×</b>		-9	1			
<u>HA101_4-6'</u>	1220 4-6	- de	X		-(0				
Sampled and Relinquished by	Received by			LIQUID	10707	MIL	Sampling Comments		
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Relinquished by	Received by				v	olume			
ion will this	Sign with out			SOLID					
Print	Print				v	OA Vial	***************************************		Mary to the management of the state of the s
irm ,	Firm			· · · · · · · · · · · · · · · · · · ·	A	mber Glass			
Date 12/2/10 Time 15	Date /2/2/10 Time 1500	1	×		CI	lear Glass		***************************************	D.M. In Vindon Continuos proposas antinos proposas antinos proposas antinos proposas antinos proposas antinos
Relinquished by	Received by		A		Pr	reservative	Evidence samples were t		0. 1/0
ign	Sign		Yor		references conference in français fuiç		f YES, please explain in		S NO
rint	Print			PRESERVATION KEY	<u> </u>		t 1 E3, picase expiain in	section below.	
im	Firm	A Samui	le chilled C NaOH	E H <sub>2</sub> SO <sub>4</sub>	G Methanol			Variation of supersystems and supersystems are supersystems and supersystems and supersystems are supersystems and supersystems and supersystems are supersystems and supersystems and supersystems are supersystems and supersystems and supersystems are supersystems and supersystems are supersystems and supersystems are supersystems and supersystems are supersystems and supersystems are supersystems and supersystems are supersystems and supersystems are supersystems and supersystems are supersystems are supersystems.	17
Date Time	Date Time	B Sampl		F HCL	H Water/NaHSO	4 (circle)			18
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	kage is needed, initial all sections:				· · · · · · · · · · · · · · · · · · ·	Tr.	Required Reporting Lim	its and Data Quality	Objectives
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						l	□ RC-S2 □ RC-GW1	□ S2 □ S3	□ GW2
as appropriate. Laborat	y Record identifies samples defined as Drinking Wat fory should (specify if applicable) analyz	ter Samples, T	rip Blanks and Field Duplicat	es are included and identifi	ied and analysis of TICs	are required,	□ RC-GW1 □ RC-GW2	₩ 83	□ GW3
	and 1						100011		Ī
	WHITE - Laboratory	· C	ANARY - Project Manager	PINK - Haley & Aide	Internal			1.001-	

Form 3003

M96288: Chain of Custody
Page 1 of 3



THAT ILL NO.  CHAIN OF CUSTODY RECORD  Pag Z of Control										r	196288
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HAA PILE NO.  PROJECT ANAME FORME CHALLES TECHNOLOGICAL FALL  ADDRESS ADDRESS CONTACT  ADDR										Page	Z of Z
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Print   Firm   A Sample chilled   C NaOH   F HSO,   G Methanol   HYES, please explain in section below.   F Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)   F Presumptive Certainty Data Package is needed, initial all sections:    Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.   GWI   This Chain of Custody Record (specify)   includes   does not include samples defined as Drinking Water Samples.   GWI   GW	Sampled and Relinquished by					LIQUID	(7-10	MC	Sampling Comments		
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Date 12/21   D Time   Date 12/21   D Time   YOO    Relinquished by   Received by   Yolume    Sign   Wild   Wild   Sign   Sign   Wild   Sign   Sign   Wild   Sign   Sign   Wild   Sign   Wild   Sign   Sign   Sign   Wild   Sign   Sign   Sign   Wild   Sign   Sign   Sign   Wild   Sign	Firm HA	Firm Brung					-1	Plastic Bottle			***************************************
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Date   12   10 Time   15 W   Date   12   2   10 Time   15 W   Preservative   Evidence samples were tampered with? YES NO    Sign   Sign   YUF   PRESERVATION KEY   Volume   HYES, please explain in section below.    Print   Print   Print   PRESERVATION KEY   Volume   HYES, please explain in section below.    Presumptive Criainty Data Package (Laboratory to use applicable DEP CAM methods)    Presumptive Certainty Data Package is needed, initial all sections:   The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.      Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.   GRC-S2		i		l							
Redired by Received by Preservative Fidence samples were tampered with? YES NO  Sign Sign Volume HYES, please explain in section below.  Print P		1 /						Amber Glass			
Print Print PRESERVATION KEY  A Sample chilled C NaOH E H <sub>2</sub> SO <sub>4</sub> G Methanol  Date Time B Sample filtered D HNO <sub>5</sub> F HCL H Water/NaHSO4 (circle)  Presumptive Certainty Data Package (Laboratory to use applicable DEF CAM methods)  The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.  Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.  This Chain of Custody Record (specify) includes does not include samples defined as Drinking Water Samples.	· · · · · · · · · · · · · · · · · · ·		Time 1500		<b>X</b>			Clear Glass			
Print Print Print PRESERVATION KEY  A Sample chilled C NaOH E H <sub>2</sub> SO <sub>4</sub> G Methanol  Date Time B Sample filtered D HNO <sub>5</sub> F HCL H Water/NaHSO4 (circle)  Presumptive Certainty Data Package (Laboratory to use applicable DEF CAM methods)  [Frequired minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.  Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.  This Chain of Custody Record (specify) includes does not include samples defined as Drinking Water Samples.	Relinquished by	Received by			4			Preservative	Evidence samples wer	re tampered with? YI	ES NO
Print Print Print PRESERVATION KEY  A Sample chilled C NaOH E H <sub>2</sub> SO <sub>4</sub> G Methanol  Date Time B Sample filtered D HNO <sub>5</sub> F HCL H Water/NaHSO4 (circle)  Presumptive Certainty Data Package (Laboratory to use applicable DEF CAM methods)  [Frequired minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.  Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.  This Chain of Custody Record (specify) includes does not include samples defined as Drinking Water Samples.	Sign	Sign		de flora	YUE			Volume	i e		
Date Time Date Time B Sample filtered D HNO, F HCL H Water/NaHSO4 (circle)  Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)  [F Presumptive Certainty Data Package is needled, initial all sections:  The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.  Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.  This Chain of Custody Record (specify) includes does not include samples defined as Drinking Water Samples.  Required Reporting Limits and Data Quality Objectives  Required Reporting Limits and Data Quality Objectives  RecS1 S1 S1 GWI  RCS2 S2 S2 GW2	Print	Print			~	PRESERVATION KEY	Y				
Date Time B Sample filtered D HNO; F HCL H Water/NaHSO4 (circle)  Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)  The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.  Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.  This Chain of Custody Record (specify) includes does not include samples defined as Drinking Water Samples.	Firm	Firm		A Sample chilled	C NaOH	E H-SO-	G Methanol				
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The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.  Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.  This Chain of Custody Record (specify)includesdoes not include samples defined as Drinking Water Samples.			ctions:						Required Reporting L	imits and Data Onality	Objectives
Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.  This Chain of Custody Record (specify)includesdoes not include samples defined as Drinking Water Samples.	The required minimum	ñeld QC samples, as designa	ted in BWSC CAM-VII h	ave been or will be	collected, as approp	oriate, to meet the requirem	tents of Presumptive Ce	ertainty.	_		
RCSZ LI SZ LI GW2	Matrix Spike (MS) sam	oles for MCP Metals and/or	Cyanide are included and i	identified herein.					ACRC-S1	□ s1	□ <sub>GWI</sub>
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The second design of the secon	If this Chain of Custody	Record identifies samples d	efined as Drinking Water 9	Samples, Trip Blani	ks and Field Donlie	ates are included and ident	ified and analysis of Th	Ce are required	□ RC-GW1	□ S3	□ GW3
as appropriate. Laboratory should (specify if applicable) analyz analyz	as appropriate. Laborate	ory should (specify if applica			upne	o moreover and futilit	and many 313 Of 11	co ere redutied.	□ RC-GW2		
WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory											***

Form 3003

M96288: Chain of Custody Page 2 of 3



796288

12/13/2010

Parkin Kullmann, Jane [jkullmann@haleyaldrich.com] From:

Monday, December 13, 2010 2:14 PM Sent:

Frank D'Agostino

Subject: Energy International PCB soil analyses follow-up

Hi Frank,

those sample locations specifically (i.e., HA-111, HA-112, and HA-113), as well as the additional samples that we are analyzing for PCBs from 0-2 and 2-4 ft bgs from those same boring locations. For any other boring locations where the results were not yet reported, we would just like to report the results for PCB analyses of soil from 0-I talked with my Project Manager for the Energy International project again, and he thought since the analyses were already conducted, that we should include in the report the results for the samples 8 feet and below for 2 and 2-4 ft bgs.

Let me know if you have any further questions or need any clarification about the analyses.

Thanks,

Jane A. Parkin Kullmann Staff Engineer

HALEY & ALDRICH 465 Medford Street, Suite 2200 Boston, MA 02129-1400 Tel: 617.886.7354 Fax: 617.886.7654

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M96288: Chain of Custody Page 3 of 3



# Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup

WSC-CAM	Exhibit VII A
July 1, 2010	Revision No. 1
Final	Page 13 of 38

### Exhibit VII A-2: MassDEP Analytical Protocol Certification Form

MassDEP Analytical Protocol Certification Form									
Laboratory Name:	Accutest Laboratorie	es of New England			Project #:	M96288	8		
Project Location:	Former Energy Inter	national Parcel. M/	Ą		MADEP RTN	None			
This form provides certifica M96288-1, M96288-2 M96288-4, M96288-2	ations for the following 2, M96288-8, M96288	data set: list Labo		Num	bers(s)				
Matrices: Groundwate  CAM Protocol (check all that	• • • • • • • • • • • • • • • • • • • •	Soil/Sediment (	X) Drinking Water	()	Air ()			Other (	()
8260 VOC () CAM IIA	7470/7471 Hg ()	MassDEP VPH CAM IV A	() 8081 Pesticido	es ()	7196 Hex Cr CAM VI B	()		Mass DEP APH	()
8270 SVOC () CAM II B			<u> </u>	es ()	8330 Explosives CAM VIII A	()			()
6010 Metals ( ) CAM III A	6020 Metals () CAM III D	8082 PCB ( CAM V A	X) 9014 Total Cyanide/PAC CAM VI A	()	6860 Perchlorate CAM VIII B	()			
Affirmative Respon	ses to Questions A	Through F are req	uired for "Presu	ımpti	ve Certainty status	;			
A properly preserved (i method holding times		) in the field or labo	ratory, and prepa	red/a	nalyzed within	<b>V</b>	Yes	☐ No	
B protocol(s) followed?		•	•			<b>V</b>	Yes	□ No	
Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?					<b>V</b>	Yes	□No		
D "Quality Assurance a Reporting of Analytic			•	in CA	AM VII A,	7	Yes	□No	
1	d TO-15 only: PH Methods only: Wa fer to the individual m			•		<b>~</b>	Yes	□No	
b. APH and TO-15 M	lethods only: Was the	complete analyte	list reported for e	ach m	nethod?	<b>/</b>	Yes	□No	
1 1 ''	CAM protocol QC and boratory narrative (inc	•				<u> </u>	Yes	∐No	
Responses to ques	tions G, H, and I belo	ow is required for	"Presumptive C	ertaiı	nty" status				
G Were the reporting lin	mits at or below all CA	AM reporting limits	specified in the			<b>V</b>	Yes	☐ No ¹	
Data User Note: Da	ta that achieve "Pre					data us	eabi	lity	
H Were all QC perform	ance standards speci	fied in the CAM pro	otocol(s) achieve	d?			Yes	✓ No ¹	
I Were results reported	d for the complete and	alyte list specified in	n the selected CA	M pro	otocol(s)?	<b>V</b>	Yes	☐ No ¹	
All Negative respon	ises must be addres	sed in an attache	d Environmenta	l Labo	oratory case narra	tive.			
I the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.									
Signature:	or fall		Position:		boratory Director				
Printed Name:	Reza Tand		Date:		12/18/2010				



## **Internal Sample Tracking Chronicle**

Haley & Aldrich

Job No: M96288

Former Energy International Parcel, MA Project No: 06318-502

Sample Number	Method	Analyzed	Ву	Prepped	Ву	Test Codes
M96288-1 HA102_0-2	Collected: 02-DEC-10	08:15 By: MD	Receiv	ved: 02-DEC	-10 By	: JB
	SM21 2540 B MOD. SW846 8082	13-DEC-10 16-DEC-10 09:06	HS CZ	13-DEC-10	AJ	% SOL P8082SOXHLET
M96288-2 HA102_2-4	Collected: 02-DEC-10	08:30 By: MD	Receiv	ved: 02-DEC	-10 By	: JB
	SM21 2540 B MOD. SW846 8082	13-DEC-10 18-DEC-10 04:12	HS CZ	13-DEC-10	AJ	% SOL P8082SOXHLET
M96288-4 HA102_6-8	Collected: 02-DEC-10	09:15 By: MD	Receiv	ved: 02-DEC	-10 By	: JB
M96288-4 M96288-4	SM21 2540 B MOD. SW846 8082	06-DEC-10 10-DEC-10 10:10	HS CZ	07-DEC-10	FC	% SOL P8082SOXHLET
M96288-8 HA101_0-2		11:15 By: MD	Receiv	ved: 02-DEC	-10 By	: JB
	SM21 2540 B MOD. SW846 8082	13-DEC-10 18-DEC-10 04:55	HS CZ	13-DEC-10	AJ	% SOL P8082SOXHLET
M96288-9 HA101_2-4	Collected: 02-DEC-10	11:30 By: MD	Receiv	ved: 02-DEC	-10 By	: ЈВ
	SM21 2540 B MOD. SW846 8082	13-DEC-10 18-DEC-10 05:32	HS CZ	13-DEC-10	AJ	% SOL P8082SOXHLET
M96288-11 HA101_6-8	Collected: 02-DEC-10	12:30 By: MD	Receiv	ved: 02-DEC	-10 By	: JB
	SM21 2540 B MOD. SW846 8082	06-DEC-10 10-DEC-10 14:38	HS CZ	07-DEC-10	FC	% SOL P8082SOXHLET





## GC Semi-volatiles

## QC Data Summaries

## Includes the following where applicable:

- · Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries



## **Method Blank Summary**

Job Number: M96288

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample OP23548-MB	File ID YZ62718.D	<b>DF</b> 1	<b>Analyzed</b> 12/09/10	By CZ	<b>Prep Date</b> 12/07/10	Prep Batch OP23548	<b>Analytical Batch</b> GYZ2665

The QC reported here applies to the following samples:

M96288-4, M96288-11

CAS No.	Compound	Result	RL	Units Q
12674-11-2	Aroclor 1016	ND	98	ug/kg
11104-28-2	Aroclor 1221	ND	98	ug/kg
11141-16-5	Aroclor 1232	ND	98	ug/kg
53469-21-9	Aroclor 1242	ND	98	ug/kg
12672-29-6	Aroclor 1248	ND	98	ug/kg
11097-69-1	Aroclor 1254	ND	98	ug/kg
11096-82-5	Aroclor 1260	ND	98	ug/kg
37324-23-5	Aroclor 1262	ND	98	ug/kg
11100-14-4	Aroclor 1268	ND	98	ug/kg
				~ ~

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	90%	30-150%
877-09-8	Tetrachloro-m-xylene	91%	30-150%
2051-24-3	Decachlorobiphenyl	87%	30-150%
2051-24-3	Decachlorobiphenyl	97%	30-150%



### U

## **Method Blank Summary**

Job Number: M96288

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	<b>Prep Date</b>	Prep Batch	Analytical Batch
OP23622-MB	YZ63039.D	1	12/16/10	CZ	12/13/10	OP23622	GYZ2676

#### The QC reported here applies to the following samples:

M96288-1, M96288-2, M96288-8, M96288-9

CAS No.	Compound	Result	RL	Units Q
12674-11-2	Aroclor 1016	ND	97	ug/kg
11104-28-2	Aroclor 1221	ND	97	ug/kg
11141-16-5	Aroclor 1232	ND	97	ug/kg
53469-21-9	Aroclor 1242	ND	97	ug/kg
12672-29-6	Aroclor 1248	ND	97	ug/kg
11097-69-1	Aroclor 1254	ND	97	ug/kg
11096-82-5	Aroclor 1260	ND	97	ug/kg
37324-23-5	Aroclor 1262	ND	97	ug/kg
11100-14-4	Aroclor 1268	ND	97	ug/kg

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	93%	30-150%
877-09-8	Tetrachloro-m-xylene	101%	30-150%
2051-24-3	Decachlorobiphenyl	108%	30-150%
2051-24-3	Decachlorobiphenyl	116%	30-150%



## Blank Spike Summary Job Number: M96288

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA **Project:** 

Sample OP23548-BS	File ID YZ62719.D	<b>DF</b> 1	<b>Analyzed</b> 12/09/10	By CZ	<b>Prep Date</b> 12/07/10	Prep Batch OP23548	Analytical Batch GYZ2665

#### The QC reported here applies to the following samples:

M96288-4, M96288-11

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
12674-11-2	Aroclor 1016	263	324	123	40-140
11104-28-2	Aroclor 1221		ND		40-140
11141-16-5	Aroclor 1232		ND		40-140
53469-21-9	Aroclor 1242		ND		40-140
12672-29-6	Aroclor 1248		ND		40-140
11097-69-1	Aroclor 1254		ND		40-140
11096-82-5	Aroclor 1260	263	277	105	40-140
37324-23-5	Aroclor 1262		ND		40-140
11100-14-4	Aroclor 1268		ND		40-140

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	90%	30-150%
877-09-8	Tetrachloro-m-xylene	91%	30-150%
2051-24-3	Decachlorobiphenyl	97%	30-150%
2051-24-3	Decachlorobiphenyl	108%	30-150%



## Blank Spike Summary Job Number: M96288

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA **Project:** 

Sample OP23622-BS	File ID YZ63040.D	<b>DF</b> 1	<b>Analyzed</b> 12/16/10	By CZ	<b>Prep Date</b> 12/13/10	Prep Batch OP23622	<b>Analytical Batch</b> GYZ2676

The QC reported here applies to the following samples:

M96288-1, M96288-2, M96288-8, M96288-9

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
12674-11-2	Aroclor 1016	261	253	97	40-140
11104-28-2	Aroclor 1221		ND		40-140
11141-16-5	Aroclor 1232		ND		40-140
53469-21-9	Aroclor 1242		ND		40-140
12672-29-6	Aroclor 1248		ND		40-140
11097-69-1	Aroclor 1254		ND		40-140
11096-82-5	Aroclor 1260	261	281	108	40-140
37324-23-5	Aroclor 1262		ND		40-140
11100-14-4	Aroclor 1268		ND		40-140

CAS No.	<b>Surrogate Recoveries</b>	BSP	Limits
877-09-8	Tetrachloro-m-xylene	89%	30-150%
877-09-8	Tetrachloro-m-xylene	89%	30-150%
2051-24-3	Decachlorobiphenyl	101%	30-150%
2051-24-3	Decachlorobiphenyl	110%	30-150%



Page 1 of 1

**Method:** SW846 8082

## Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96288

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP23548-MS	YZ62720.D	1	12/09/10	CZ	12/07/10	OP23548	GYZ2665
OP23548-MSD	YZ62721.D	1	12/10/10	CZ	12/07/10	OP23548	GYZ2665
M96256-26	YZ62722.D	1	12/10/10	CZ	12/07/10	OP23548	GYZ2665

The QC reported here applies to the following samples:

M96288-4, M96288-11

CAS No. Compound	M96256-26 ug/kg Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
12674-11-2 Aroclor 1016	ND	346	430	124	359	108	18	40-140/50
11104-28-2 Aroclor 1221	ND		ND		ND		nc	40-140/50
11141-16-5 Aroclor 1232	ND		ND		ND		nc	40-140/50
53469-21-9 Aroclor 1242	ND		ND		ND		nc	40-140/50
12672-29-6 Aroclor 1248	ND		ND		ND		nc	40-140/50
11097-69-1 Aroclor 1254	20.5		143		110		26	40-140/50
11096-82-5 Aroclor 1260	ND	346	463	134	382	114	19	40-140/50
37324-23-5 Aroclor 1262	ND		ND		ND		nc	40-140/50
11100-14-4 Aroclor 1268	ND		ND		ND		nc	40-140/50

CAS No.	<b>Surrogate Recoveries</b>	MS	MSD	M96256-26	Limits
877-09-8	Tetrachloro-m-xylene	119%	101%	91%	30-150%
877-09-8	Tetrachloro-m-xylene	123%	102%	96%	30-150%
2051-24-3	Decachlorobiphenyl	122%	105%	94%	30-150%
2051-24-3	Decachlorobiphenyl	122%	107%	97%	30-150%



Page 1 of 1

**Method:** SW846 8082

## Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96288

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP23622-MS	YZ63044.D	1	12/16/10	CZ	12/13/10	OP23622	GYZ2677
OP23622-MSD	YZ63046.D	1	12/16/10	CZ	12/13/10	OP23622	GYZ2677
M96288-1	YZ63048.D	1	12/16/10	CZ	12/13/10	OP23622	GYZ2677

The QC reported here applies to the following samples:

M96288-1, M96288-2, M96288-8, M96288-9

CAS No. Con	mpound	M96288- ug/kg	1 Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
12674-11-2 Arc	oclor 1016	ND		299	292	98	366	123	22	40-140/50
11104-28-2 Arc	oclor 1221	ND			ND		ND		nc	40-140/50
11141-16-5 Arc	oclor 1232	ND			ND		ND		nc	40-140/50
53469-21-9 Arc	oclor 1242	ND			ND		ND		nc	40-140/50
12672-29-6 Arc	oclor 1248	ND			ND		ND		nc	40-140/50
11097-69-1 Arc	oclor 1254	81.1			820		167		132* a	40-140/50
11096-82-5 Arc	oclor 1260	34.0		299	288	85	380	116	28	40-140/50
37324-23-5 Arc	oclor 1262	ND			ND		ND		nc	40-140/50
11100-14-4 Arc	oclor 1268	ND			ND		ND		nc	40-140/50

CAS No.	<b>Surrogate Recoveries</b>	MS	MSD	M96288-1	Limits
877-09-8	Tetrachloro-m-xylene	62%	48%	72%	30-150%
877-09-8	Tetrachloro-m-xylene	1405% * a	13% * a	41%	30-150%
2051-24-3	Decachlorobiphenyl	35%	122%	129%	30-150%
2051-24-3	Decachlorobiphenyl	93%	107%	123%	30-150%

(a) Outside control limits due to possible matrix interference.



## **Semivolatile Surrogate Recovery Summary**

Job Number: M96288

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Method: SW846 8082 Matrix: SO

#### Samples and QC shown here apply to the above method

Lab	Lab				
Sample ID	File ID	S1 a	<b>S1</b> b	<b>S2</b> a	<b>S2</b> b
M96288-1	YZ63048.D	72.0	41.0	129.0	123.0
M96288-2	YZ63128.D	115.0	139.0	138.0	97.0
M96288-4	YZ62726.D	99.0	101.0	156.0* <sup>c</sup>	105.0
M96288-8	YZ63130.D	114.0	1081.0* c	147.0	112.0
M96288-9	YZ63132.D	112.0	131.0	141.0	90.0
M96288-11	YZ62739.D	92.0	92.0	119.0	90.0
OP23548-BS	YZ62719.D	90.0	91.0	97.0	108.0
OP23548-MB	YZ62718.D	90.0	91.0	87.0	97.0
OP23548-MS	YZ62720.D	119.0	123.0	122.0	122.0
OP23548-MSD	YZ62721.D	101.0	102.0	105.0	107.0
OP23622-BS	YZ63040.D	89.0	89.0	101.0	110.0
OP23622-MB	YZ63039.D	93.0	101.0	108.0	116.0
OP23622-MS	YZ63044.D	62.0	1405.0* c	35.0	93.0
OP23622-MSD	YZ63046.D	48.0	13.0* c	122.0	107.0

## Surrogate Recovery Compounds Limits

S1 = Tetrachloro-m-xylene 30-150% S2 = Decachlorobiphenyl 30-150%

- (a) Recovery from GC signal #1
- (b) Recovery from GC signal #2
- (c) Outside control limits due to possible matrix interference.





12/22/10



## Technical Report for

Haley & Aldrich

Former Energy International Parcel, MA

06318-502

Accutest Job Number: M96289

Sampling Date: 12/02/10

#### Report to:

Haley & Aldrich

jkullmann@haleyaldrich.com

ATTN: Jane Kullmann

Total number of pages in report: 130



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Client Service contact: Kristen Blanchard 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) ISO 17025:2005 (L2235) This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories. Test results relate only to samples analyzed.

1 of 13(
ACCUTEST

Lab Director

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## **Sample Summary**

Haley & Aldrich

Job No:

M96289

Former Energy International Parcel, MA Project No: 06318-502

Sample Number	Collected Date	Time By	Received	Matri Code		Client Sample ID
M96289-1	12/02/10	08:50 MD	12/02/10	SO	Soil	HA102_0-4'
M96289-2	12/02/10	09:30 MD	12/02/10	SO	Soil	HA102_4-8'
M96289-2A	12/02/10	09:30 MD	12/02/10	SO	Soil	HA102_4-8'
M96289-3	12/02/10	12:00 MD	12/02/10	SO	Soil	HA101_0-4'
M96289-3A	12/02/10	12:00 MD	12/02/10	SO	Soil	HA101_0-4'
M96289-4	12/02/10	12:50 MD	12/02/10	SO	Soil	HA101_4-8'
M96289-4A	12/02/10	12:50 MD	12/02/10	SO	Soil	HA101_4-8'
M96289-4AD	12/02/10	12:50 MD	12/02/10	SO	Soil Dup/MSD	HA101_4-8'
M96289-4AS	12/02/10	12:50 MD	12/02/10	SO	Soil Matrix Spike	HA101_4-8'
M96289-4D	12/02/10	12:50 MD	12/02/10	SO	Soil Dup/MSD	HA101_4-8'
M96289-4S	12/02/10	12:50 MD	12/02/10	SO	Soil Matrix Spike	HA101_4-8'

Soil samples reported on a dry weight basis unless otherwise indicated on result page.





#### SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Haley & Aldrich Job No M96289

Site: Former Energy International Parcel, MA Report Date 12/22/2010 4:40:38 PM

4 Sample(s) were collected on 12/02/2010 and were received at Accutest on 12/02/2010 properly preserved, at 1.9 Deg. C and intact. These Samples received an Accutest job number of M96289. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

#### Volatiles by GCMS By Method SW846 8260B

Matrix SO Batch ID: MSR666

- All samples were analyzed within the recommended method holding time.
- Sample(s) M96257-6MS, M96257-6MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Blank Spike Recovery(s) for Isopropylbenzene, Tetrachloroethene are outside control limits. Blank Spike meets program technical requirements.
- Matrix Spike Recovery(s) for 2-Hexanone, Dibromochloromethane, Hexachlorobutadiene, Isopropylbenzene, Naphthalene, Styrene, Tetrachloroethene are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike
- Matrix Spike Duplicate Recovery(s) for 2-Hexanone, Dibromochloromethane, Hexachlorobutadiene, Isopropylbenzene are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- The response factor (RF) for the 2-Butanone low point in the initial calibration MSR638-ICC638 is 0.028, less than the required RF of 0.1 as noted in Table 4 of SW846 8260C. 2-Butanone is a potential differicult compound.
- Initial calibration verification MSR638-ICV638 for acetone, isopropylbenzene exceed 30% Difference.

#### Extractables by GCMS By Method SW846 8270C

Matrix SO Batch ID: OP23538

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) M96289-4MS were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Matrix Spike Recovery(s) for Phenanthrene, Pyrene are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- OP23538-MS for , 2,4-Dinitrophenol, Benzoic acid, Hexachlorocyclopentadiene, Pentachlorophenol: Outside control limits due to possible matrix interference. Refer to Blank Spike.
- OP23538-BS for Acetophenone: Outside control limits. Associated samples are non-detect for this compound.
- Initial calibration verification standard MSS822-ICV822, file S19885 for Aniline, Nitrobenzene-d5, 4-Chloroaniline, 2-Fluorobiphenyl, Terphenyl-d14, 3,3'-Dichlorobenzidine exceeds 30% Difference Initial calibration verification standard MSS822-ICV822, file S19884 for 2-Fluorophenol, Phenol-d5, 2,4,6-Tribromophenol exceeds 30% Difference



#### **Volatiles by GC By Method MADEP VPH REV 1.1**

Matrix SO Batch ID: GBH929

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Only range requested.
- M96289-1 for 2,5-Dibromotoluene: Outside control limits due to matrix interference. Confirmed by reanalysis.

Matrix SO Batch ID: GBH930

- M96289-1: Confirmation run.
- M96289-1 for 2,5-Dibromotoluene: Outside control limits due to matrix interference. Confirmed by reanalysis.

#### Extractables by GC By Method MADEP EPH REV 1.1

Matrix SO Batch ID: OP23590

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96289-4MS, M96289-4MSD were used as the QC samples indicated.
- RPD of Matrix Spike Duplicate Recovery(s) for C11-C22 Aromatics (Unadj.) are outside control limits. Outside control limits due to possible matrix interference.
- Only range requested.
- OP23590-BS for C11-C22 Aromatics (Unadj.): Aromatic breakthrough (naphthalene and/or 2-methylnaphthalene) exceeded 5% method limit. Results confirmed by refractionation.
- M96289-1 for 2-Bromonaphthalene: Outside control limits due to possible matrix interference. Confirmed by refractionation.
- M96289-2 for 1-Chlorooctadecane: Outside control limits due to possible matrix interference. Confirmed by refractionation.
- Matrix Spike Duplicate Recovery(s) for C11-C22 Aromatics (Unadj.) are outside control limits. Outside control limits due to high level in sample relative to spike amount.

#### Metals By Method SW846 6010C

Matrix LEACHATE Bat

Batch ID: MP16354

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96199-5AMS, M96199-5ASDL, M96289-4ADUP, M96289-4ALS were used as the QC samples for metals.

Matrix SO

Batch ID: MP16338

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96289-4DUP, M96289-4MS, M96289-4PS, M96289-4SDL, M96289-4DUP were used as the QC samples for metals.
- Matrix Spike Recovery(s) for Nickel, Antimony, Barium are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity. Post spike is not within acceptable range.
- Matrix Spike Recovery(s) for Lead, Zinc are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- RPD(s) for Duplicate for Antimony, Barium, Lead, Silver are outside control limits for sample MP16338-D1. High RPD due to possible matrix interference and/or sample non-homogeneity.
- RPD(s) for Serial Dilution for Cadmium are outside control limits for sample MP16338-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).</p>
- MP16338-S1 for Barium, Antimony: Spike recovery indicates possible matrix interference and/or sample nonhomogeneity. Post spike within acceptable range.
- M96289-2 for Antimony: Elevated RL due to dilution required for matrix interference.
- MP16338-SD1 for Zinc: Serial dilution indicates possible matrix interference.

#### Metals By Method SW846 7471A

Matrix SO

Batch ID: MP16345

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96289-4DUP, M96289-4MS were used as the QC samples for metals.

#### Wet Chemistry By Method ASTM D1498-76M

Matrix SO

Batch ID: GN33622

- Sample(s) M96225-8DUP were used as the QC samples for Redox Potential Vs H2.
- GN33622-D1 for Redox Potential Vs H2: Analysis requested after recommended holding time.

Matrix SO

Batch ID: GN33623

- Sample(s) M96199-6DUP were used as the QC samples for Redox Potential Vs H2.
- GN33623-D1 for Redox Potential Vs H2: Analysis requested after recommended holding time.

#### Wet Chemistry By Method SM21 2540 B MOD.

Matrix SO

Batch ID: GN33620

Sample(s) M96289-4DUP were used as the QC samples for Solids, Percent.

#### Wet Chemistry By Method SW846 1020

Matrix SO

Batch ID: GN33658

Sample(s) M96289-4DUP were used as the QC samples for Ignitability (Flashpoint).

#### Wet Chemistry By Method SW846 CHAP7

Matrix SO Batch ID: GN33617

Sample(s) M96225-8DUP were used as the QC samples for Corrosivity as pH.

Matrix SO Batch ID: GN33618

Sample(s) M96289-3DUP were used as the QC samples for Corrosivity as pH.

Matrix SO Batch ID: GP12387

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96289-4DUP, M96289-4MS were used as the QC samples for Cyanide Reactivity.

Matrix SO Batch ID: GP12388

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M96289-4DUP, M96289-4MS were used as the QC samples for Sulfide Reactivity.

Accutest may not have met all requested limits due to methodology limitations, sample matrix, dilutions, or percents solids.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety. The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report (M96289).



Sample Results	
Report of Analysis	



Client Sample ID: HA102\_0-4' M96289-1 Lab Sample ID:

Matrix: SO - Soil Method: SW846 8260B

**Project:** Former Energy International Parcel, MA **Date Sampled:** 12/02/10 **Date Received:** 12/02/10

Percent Solids: 88.6

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 R18692.D 1 12/09/10 GKMSR666 n/an/a

Run #2

**Final Volume Methanol Aliquot Initial Weight** 

Run #1 10.0 ml 100 ul 12.1 g

Run #2

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	260	ug/kg	
71-43-2	Benzene	ND	26	ug/kg	
108-86-1	Bromobenzene	ND	260	ug/kg	
74-97-5	Bromochloromethane	ND	260	ug/kg	
75-27-4	Bromodichloromethane	ND	110	ug/kg	
75-25-2	Bromoform	ND	110	ug/kg	
74-83-9	Bromomethane	ND	110	ug/kg	
78-93-3	2-Butanone (MEK)	ND	260	ug/kg	
104-51-8	n-Butylbenzene	ND	260	ug/kg	
135-98-8	sec-Butylbenzene	ND	260	ug/kg	
98-06-6	tert-Butylbenzene	ND	260	ug/kg	
75-15-0	Carbon disulfide	ND	260	ug/kg	
56-23-5	Carbon tetrachloride	ND	110	ug/kg	
108-90-7	Chlorobenzene	ND	110	ug/kg	
75-00-3	Chloroethane	ND	260	ug/kg	
67-66-3	Chloroform	ND	110	ug/kg	
74-87-3	Chloromethane	ND	260	ug/kg	
95-49-8	o-Chlorotoluene	ND	260	ug/kg	
106-43-4	p-Chlorotoluene	ND	260	ug/kg	
108-20-3	Di-Isopropyl ether	ND	110	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	260	ug/kg	
124-48-1	Dibromochloromethane	ND	110	ug/kg	
106-93-4	1,2-Dibromoethane	ND	110	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	110	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	110	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	110	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	110	ug/kg	
75-34-3	1,1-Dichloroethane	ND	110	ug/kg	
107-06-2	1,2-Dichloroethane	ND	110	ug/kg	
75-35-4	1,1-Dichloroethene	ND	110	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	110	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	110	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



**Date Sampled:** 12/02/10

**Date Received:** 12/02/10

Percent Solids: 88.6

Client Sample ID: HA102\_0-4' Lab Sample ID: M96289-1

Matrix: SO - Soil Method: SW846 8260B

**Project:** Former Energy International Parcel, MA

#### Froject: Former Energy International Parcer, WA

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	110	ug/kg	
142-28-9	1,3-Dichloropropane	ND	260	ug/kg	
594-20-7	2,2-Dichloropropane	ND	260	ug/kg	
563-58-6	1,1-Dichloropropene	ND	260	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	110	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	110	ug/kg	
123-91-1	1,4-Dioxane	ND	1300	ug/kg	
60-29-7	Ethyl Ether	ND	260	ug/kg	
100-41-4	Ethylbenzene	ND	110	ug/kg	
87-68-3	Hexachlorobutadiene	ND	260	ug/kg	
591-78-6	2-Hexanone	ND	260	ug/kg	
98-82-8	Isopropylbenzene	ND	260	ug/kg	
99-87-6	p-Isopropyltoluene	ND	260	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	110	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	260	ug/kg	
74-95-3	Methylene bromide	ND	260	ug/kg	
75-09-2	Methylene chloride	ND	110	ug/kg	
91-20-3	Naphthalene	271	260	ug/kg	
103-65-1	n-Propylbenzene	ND	260	ug/kg	
100-42-5	Styrene	ND	260	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	260	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	110	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	260	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	110	ug/kg	
127-18-4	Tetrachloroethene	ND	110	ug/kg	
109-99-9	Tetrahydrofuran	ND	530	ug/kg	
108-88-3	Toluene	ND	260	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	260	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	260	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	110	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	110	ug/kg	
79-01-6	Trichloroethene	ND	110	ug/kg	
75-69-4	Trichlorofluoromethane	ND	110	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	260	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	260	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	260	ug/kg	
75-01-4	Vinyl chloride	ND	110	ug/kg	
	m,p-Xylene	145	110	ug/kg	
95-47-6	o-Xylene	ND	110	ug/kg	
1330-20-7	Xylene (total)	145	110	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

 $N = \ Indicates \ presumptive \ evidence \ of \ a \ compound$ 

**Date Sampled:** 12/02/10

**Date Received:** 12/02/10

Percent Solids: 88.6

Client Sample ID: HA102\_0-4'
Lab Sample ID: M96289-1

Matrix: SO - Soil
Method: SW846 8260B

**Project:** Former Energy International Parcel, MA

#### **VOA MCP List**

CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		70-130%
2037-26-5	Toluene-D8	114%		70-130%
460-00-4	4-Bromofluorobenzene	115%		70-130%

ND = Not detected

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J = Indicates an estimated value

 $B = \ \, \text{Indicates analyte found in associated method blank}$ 

N = Indicates presumptive evidence of a compound



Client Sample ID: HA102\_0-4' Lab Sample ID: M96289-1

 Matrix:
 SO - Soil

 Method:
 SW846 8270C
 SW846 3510C

**Project:** Former Energy International Parcel, MA

Date Sampled: 12/02/10
Date Received: 12/02/10
Percent Solids: 88.6

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 S19972.D 1 12/13/10 PR 12/06/10 OP23538 MSS826

Run #2

Initial Weight Final Volume

Run #1 20.2 g 1.0 ml

Run #2

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	560	ug/kg	
95-57-8	2-Chlorophenol	ND	280	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	560	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	560	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	560	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1100	ug/kg	
95-48-7	2-Methylphenol	ND	560	ug/kg	
	3&4-Methylphenol	ND	560	ug/kg	
88-75-5	2-Nitrophenol	ND	560	ug/kg	
100-02-7	4-Nitrophenol	ND	1100	ug/kg	
87-86-5	Pentachlorophenol	ND	560	ug/kg	
108-95-2	Phenol	ND	280	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	560	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	560	ug/kg	
83-32-9	Acenaphthene	ND	280	ug/kg	
208-96-8	Acenaphthylene	ND	280	ug/kg	
98-86-2	Acetophenone	ND	560	ug/kg	
62-53-3	Aniline	ND	560	ug/kg	
120-12-7	Anthracene	ND	280	ug/kg	
56-55-3	Benzo(a)anthracene	357	280	ug/kg	
50-32-8	Benzo(a)pyrene	316	280	ug/kg	
205-99-2	Benzo(b)fluoranthene	296	280	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	280	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	280	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	280	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	280	ug/kg	
91-58-7	2-Chloronaphthalene	ND	280	ug/kg	
106-47-8	4-Chloroaniline	ND	560	ug/kg	
218-01-9	Chrysene	436	280	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	280	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	280	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	280	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



**Date Sampled:** 12/02/10

**Date Received:** 12/02/10

Percent Solids: 88.6

Client Sample ID: HA102\_0-4' Lab Sample ID: M96289-1

Matrix: SO - Soil SW846 8270C SW846 3510C

Method:

**Project:** Former Energy International Parcel, MA

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units Q
95-50-1	1,2-Dichlorobenzene	ND	280	ug/kg
122-66-7	1,2-Diphenylhydrazine	ND	280	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	280	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	280	ug/kg
121-14-2	2,4-Dinitrotoluene	ND	560	ug/kg
606-20-2	2,6-Dinitrotoluene	ND	560	ug/kg
91-94-1	3,3'-Dichlorobenzidine	ND	280	ug/kg
53-70-3	Dibenzo(a,h)anthracene	ND	280	ug/kg
132-64-9	Dibenzofuran	ND	280	ug/kg
84-74-2	Di-n-butyl phthalate	ND	280	ug/kg
117-84-0	Di-n-octyl phthalate	ND	280	ug/kg
84-66-2	Diethyl phthalate	ND	280	ug/kg
131-11-3	Dimethyl phthalate	ND	280	ug/kg
117-81-7	bis(2-Ethylhexyl)phthalate	ND	280	ug/kg
206-44-0	Fluoranthene	598	280	ug/kg
86-73-7	Fluorene	ND	280	ug/kg
118-74-1	Hexachlorobenzene	ND	280	ug/kg
87-68-3	Hexachlorobutadiene	ND	280	ug/kg
77-47-4	Hexachlorocyclopentadiene	ND	560	ug/kg
67-72-1	Hexachloroethane	ND	280	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	ND	280	ug/kg
78-59-1	Isophorone	ND	280	ug/kg
91-57-6	2-Methylnaphthalene	617	280	ug/kg
91-20-3	Naphthalene	ND	280	ug/kg
98-95-3	Nitrobenzene	ND	280	ug/kg
621-64-7	N-Nitroso-di-n-propylamine	ND	280	ug/kg
86-30-6	N-Nitrosodiphenylamine	ND	280	ug/kg
85-01-8	Phenanthrene	354	280	ug/kg
129-00-0	Pyrene	630	280	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	280	ug/kg
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	44%		30-130%
4165-62-2	Phenol-d5	44%		30-130%
118-79-6	2,4,6-Tribromophenol	48%		30-130%
4165-60-0	Nitrobenzene-d5	72%		30-130%
321-60-8	2-Fluorobiphenyl	53%		30-130%
1718-51-0	Terphenyl-d14	46%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$ N = Indicates presumptive evidence of a compound



#### Page 1 of 1

## **Report of Analysis**

Client Sample ID: HA102\_0-4' Lab Sample ID: M96289-1

Matrix: SO - Soil
Method: MADEP VPH REV 1.1

**Project:** Former Energy International Parcel, MA

Date Sampled: 12/02/10 Date Received: 12/02/10 Percent Solids: 88.6

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	<b>Analytical Batch</b>
Run #1 <sup>a</sup>	BH17833.D	1	12/08/10	WS	n/a	n/a	GBH929
Run #2 b	BH17848.D	1	12/08/10	WS	n/a	n/a	GBH930

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	12.1 g	11.0 ml	10.0 ul
Run #2	12.1 g	11.0 ml	10.0 ul

#### **Volatile TPHC Ranges**

CAS No.	Compound	Result	RL	Units Q
	C5- C8 Aliphatics (Unadj.) C9- C12 Aliphatics (Unadj.) C9- C10 Aromatics (Unadj.) C5- C8 Aliphatics C9- C12 Aliphatics	ND 423000 194000 ND 228000	58000 58000 58000 58000 58000	ug/kg ug/kg ug/kg ug/kg ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
615-59-8 615-59-8	2,5-Dibromotoluene 2,5-Dibromotoluene	248% <sup>c</sup> 176% <sup>c</sup>	223% <sup>c</sup> 134% <sup>c</sup>	70-130% 70-130%

- (a) Outside control limits due to possible matrix interference. Confirmed by re-extraction/reanalysis.
- (b) Confirmation run.
- (c) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



C

Client Sample ID: HA102\_0-4'
Lab Sample ID: M96289-1

 Lab Sample ID:
 M96289-1
 Date Sampled:
 12/02/10

 Matrix:
 SO - Soil
 Date Received:
 12/02/10

 Method:
 MADEP EPH REV 1.1 SW846 3545
 Percent Solids:
 88.6

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BI2782.D 1 12/15/10 JD 12/10/10 OP23590 GBI104

Run #2

Initial Weight Final Volume

Run #1 11.2 g 2.0 ml

Run #2

#### **Extractable TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C11-C22 Aromatics (Unadj.) C9-C18 Aliphatics C19-C36 Aliphatics C11-C22 Aromatics	747000 1410000 710000 739000	20000 10000 10000 20000	ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	3
84-15-1 321-60-8	o-Terphenyl 2-Fluorobiphenyl	78% 127%		40-140 40-140	
580-13-2 3386-33-2	2-Bromonaphthalene 1-Chlorooctadecane	231% <sup>a</sup> 49%		40-140 40-140	)%

(a) Outside control limits due to possible matrix interference. Confirmed by refractionation.

 $ND = \ Not \ detected$ 

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



C

#### Page 1 of 1

## **Report of Analysis**

 Client Sample ID:
 HA102\_0-4'

 Lab Sample ID:
 M96289-1

 Date Sampled:
 12/02/10

 Matrix:
 SO - Soil

 Date Received:
 12/02/10

 Percent Solids:
 88.6

**Project:** Former Energy International Parcel, MA

#### **Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	< 0.86	0.86	mg/kg	1	12/06/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Arsenic	7.4	0.86	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Barium	41.2	4.3	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Beryllium	0.35	0.34	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Cadmium	0.40	0.34	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Chromium	13.4	0.86	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Lead	83.6	0.86	mg/kg	1	12/06/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Mercury	0.74	0.034	mg/kg	1	12/07/10	12/08/10 PY	SW846 7471A <sup>2</sup>	SW846 7471A <sup>4</sup>
Nickel	14.4	3.4	mg/kg	1	12/06/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Selenium	< 0.86	0.86	mg/kg	1	12/06/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Silver	< 0.43	0.43	mg/kg	1	12/06/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Thallium	< 0.86	0.86	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Vanadium	26.8	0.86	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Zinc	105	1.7	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>

(1) Instrument QC Batch: MA12497(2) Instrument QC Batch: MA12500(3) Prep QC Batch: MP16338(4) Prep QC Batch: MP16345

Client Sample ID: HA102\_0-4' Lab Sample ID: M96289-1 Matrix: SO - Soil

**Date Sampled:** 12/02/10 **Date Received:** 12/02/10 **Percent Solids:** 88.6

**Project:** Former Energy International Parcel, MA

#### **General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	7.4			1	12/03/10	MA	SW846 CHAP7
Cyanide Reactivity	< 1.7	1.7	mg/kg	1	12/08/10	BF	SW846 CHAP7
Ignitability (Flashpoint)	> 230		Deg. F	1	12/08/10	BF	SW846 1020
Redox Potential Vs H2	427		mv	1	12/03/10	MC	ASTM D1498-76M
Solids, Percent	88.6		%	1	12/03/10	HS	SM21 2540 B MOD.
Sulfide Reactivity	< 56	56	mg/kg	1	12/08/10	BF	SW846 CHAP7

Client Sample ID: HA102\_4-8'

 Lab Sample ID:
 M96289-2
 Date Sampled:
 12/02/10

 Matrix:
 SO - Soil
 Date Received:
 12/02/10

 Method:
 SW846 8260B
 Percent Solids:
 81.7

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 R18679.D 1 12/09/10 GK n/a n/a MSR666

Run #2

Initial Weight Final Volume Methanol Aliquot

Run #1 9.90 g 10.0 ml 100 ul

Run #2

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	370	ug/kg	
71-43-2	Benzene	ND	37	ug/kg	
108-86-1	Bromobenzene	ND	370	ug/kg	
74-97-5	Bromochloromethane	ND	370	ug/kg	
75-27-4	Bromodichloromethane	ND	150	ug/kg	
75-25-2	Bromoform	ND	150	ug/kg	
74-83-9	Bromomethane	ND	150	ug/kg	
78-93-3	2-Butanone (MEK)	ND	370	ug/kg	
104-51-8	n-Butylbenzene	ND	370	ug/kg	
135-98-8	sec-Butylbenzene	ND	370	ug/kg	
98-06-6	tert-Butylbenzene	ND	370	ug/kg	
75-15-0	Carbon disulfide	ND	370	ug/kg	
56-23-5	Carbon tetrachloride	ND	150	ug/kg	
108-90-7	Chlorobenzene	ND	150	ug/kg	
75-00-3	Chloroethane	ND	370	ug/kg	
67-66-3	Chloroform	ND	150	ug/kg	
74-87-3	Chloromethane	ND	370	ug/kg	
95-49-8	o-Chlorotoluene	ND	370	ug/kg	
106-43-4	p-Chlorotoluene	ND	370	ug/kg	
108-20-3	Di-Isopropyl ether	ND	150	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	370	ug/kg	
124-48-1	Dibromochloromethane	ND	150	ug/kg	
106-93-4	1,2-Dibromoethane	ND	150	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	150	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	150	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	150	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	150	ug/kg	
75-34-3	1,1-Dichloroethane	ND	150	ug/kg	
107-06-2	1,2-Dichloroethane	ND	150	ug/kg	
75-35-4	1,1-Dichloroethene	ND	150	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	150	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	150	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Client Sample ID: HA102\_4-8' Lab Sample ID: M96289-2

Matrix: SO - Soil Method: SW846 8260B

**Project:** Former Energy International Parcel, MA

Date Sampled: 12/02/10 Date Received: 12/02/10 Percent Solids: 81.7

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	150	ug/kg	
142-28-9	1,3-Dichloropropane	ND	370	ug/kg	
594-20-7	2,2-Dichloropropane	ND	370	ug/kg	
563-58-6	1,1-Dichloropropene	ND	370	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	150	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	150	ug/kg	
123-91-1	1,4-Dioxane	ND	1800	ug/kg	
60-29-7	Ethyl Ether	ND	370	ug/kg	
100-41-4	Ethylbenzene	ND	150	ug/kg	
87-68-3	Hexachlorobutadiene	ND	370	ug/kg	
591-78-6	2-Hexanone	ND	370	ug/kg	
98-82-8	Isopropylbenzene	ND	370	ug/kg	
99-87-6	p-Isopropyltoluene	ND	370	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	150	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	370	ug/kg	
74-95-3	Methylene bromide	ND	370	ug/kg	
75-09-2	Methylene chloride	ND	150	ug/kg	
91-20-3	Naphthalene	ND	370	ug/kg	
103-65-1	n-Propylbenzene	ND	370	ug/kg	
100-42-5	Styrene	ND	370	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	370	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	150	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	370	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	150	ug/kg	
127-18-4	Tetrachloroethene	ND	150	ug/kg	
109-99-9	Tetrahydrofuran	ND	730	ug/kg	
108-88-3	Toluene	395	370	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	370	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	370	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	150	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	150	ug/kg	
79-01-6	Trichloroethene	ND	150	ug/kg	
75-69-4	Trichlorofluoromethane	ND	150	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	370	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	370	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	370	ug/kg	
75-01-4	Vinyl chloride	ND	150	ug/kg	
	m,p-Xylene	ND	150	ug/kg	
95-47-6	o-Xylene	ND	150	ug/kg	
1330-20-7	Xylene (total)	ND	150	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



## C

## **Report of Analysis**

Client Sample ID: HA102\_4-8' Lab Sample ID: M96289-2

Matrix: SO - Soil Method: SW846 8260B

**Project:** Former Energy International Parcel, MA

**Date Sampled:** 12/02/10 **Date Received:** 12/02/10 **Percent Solids:** 81.7

#### **VOA MCP List**

CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		70-130%
2037-26-5	Toluene-D8	108%		70-130%
460-00-4	4-Bromofluorobenzene	109%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ \, \text{Indicates analyte found in associated method blank}$ 

N = Indicates presumptive evidence of a compound



Client Sample ID: HA102\_4-8' Lab Sample ID: M96289-2

 Matrix:
 SO - Soil

 Method:
 SW846 8270C
 SW846 3510C

**Project:** Former Energy International Parcel, MA

**Date Sampled:** 12/02/10 **Date Received:** 12/02/10

Percent Solids: 81.7

		File ID	DF	Analyzed	By	Prep Date	<b>Prep Batch</b>	<b>Analytical Batch</b>
]	Run #1	S19973.D	1	12/13/10	PR	12/06/10	OP23538	MSS826
]	Run #2	S20058.D	10	12/16/10	PR	12/06/10	OP23538	MSS831

	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2	20.1 g	1.0 ml

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	610	ug/kg	
95-57-8	2-Chlorophenol	ND	310	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	610	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	610	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	610	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	ug/kg	
95-48-7	2-Methylphenol	ND	610	ug/kg	
	3&4-Methylphenol	ND	610	ug/kg	
88-75-5	2-Nitrophenol	ND	610	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	ug/kg	
87-86-5	Pentachlorophenol	ND	610	ug/kg	
108-95-2	Phenol	ND	310	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	610	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	610	ug/kg	
83-32-9	Acenaphthene	2790	310	ug/kg	
208-96-8	Acenaphthylene	ND	310	ug/kg	
98-86-2	Acetophenone	ND	610	ug/kg	
62-53-3	Aniline	ND	610	ug/kg	
120-12-7	Anthracene	5750	310	ug/kg	
56-55-3	Benzo(a)anthracene	7760	310	ug/kg	
50-32-8	Benzo(a)pyrene	5270	310	ug/kg	
205-99-2	Benzo(b)fluoranthene	3900	310	ug/kg	
191-24-2	Benzo(g,h,i)perylene	2370	310	ug/kg	
207-08-9	Benzo(k)fluoranthene	3870	310	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	310	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	310	ug/kg	
91-58-7	2-Chloronaphthalene	ND	310	ug/kg	
106-47-8	4-Chloroaniline	ND	610	ug/kg	
218-01-9	Chrysene	7470	310	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	310	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	310	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	310	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



Client Sample ID: HA102\_4-8' Lab Sample ID: M96289-2

 Matrix:
 SO - Soil

 Method:
 SW846 8270C
 SW846 3510C

**Project:** Former Energy International Parcel, MA

## Date Sampled: 12/02/10 Date Received: 12/02/10 Percent Solids: 81.7

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units Q
95-50-1	1,2-Dichlorobenzene	ND	310	ug/kg
122-66-7	1,2-Diphenylhydrazine	ND	310	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	310	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	310	ug/kg
121-14-2	2,4-Dinitrotoluene	ND	610	ug/kg
606-20-2	2,6-Dinitrotoluene	ND	610	ug/kg
91-94-1	3,3'-Dichlorobenzidine	ND	310	ug/kg
53-70-3	Dibenzo(a,h)anthracene	1190	310	ug/kg
132-64-9	Dibenzofuran	1800	310	ug/kg
84-74-2	Di-n-butyl phthalate	ND	310	ug/kg
117-84-0	Di-n-octyl phthalate	ND	310	ug/kg
84-66-2	Diethyl phthalate	ND	310	ug/kg
131-11-3	Dimethyl phthalate	ND	310	ug/kg
117-81-7	bis(2-Ethylhexyl)phthalate	ND	310	ug/kg
206-44-0	Fluoranthene	18900 a	3100	ug/kg
86-73-7	Fluorene	3340	310	ug/kg
118-74-1	Hexachlorobenzene	ND	310	ug/kg
87-68-3	Hexachlorobutadiene	ND	310	ug/kg
77-47-4	Hexachlorocyclopentadiene	ND	610	ug/kg
67-72-1	Hexachloroethane	ND	310	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	2380	310	ug/kg
78-59-1	Isophorone	ND	310	ug/kg
91-57-6	2-Methylnaphthalene	1020	310	ug/kg
91-20-3	Naphthalene	1180	310	ug/kg
98-95-3	Nitrobenzene	ND	310	ug/kg
621-64-7	N-Nitroso-di-n-propylamine	ND	310	ug/kg
86-30-6	N-Nitrosodiphenylamine	ND	310	ug/kg
85-01-8	Phenanthrene	23000 a	3100	ug/kg
129-00-0	Pyrene	11800	310	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	310	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	62%	61%	30-130%
4165-62-2	Phenol-d5	61%	58%	30-130%
118-79-6	2,4,6-Tribromophenol	73%	52%	30-130%
4165-60-0	Nitrobenzene-d5	69%	67%	30-130%
321-60-8	2-Fluorobiphenyl	73%	85%	30-130%
1718-51-0	Terphenyl-d14	67%	89%	30-130%
	1 - 2 -			

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



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Page 3 of 3

**Date Sampled:** 12/02/10

Client Sample ID: HA102\_4-8' Lab Sample ID: M96289-2

Matrix: **Date Received:** 12/02/10 SO - Soil Method: SW846 8270C SW846 3510C Percent Solids: 81.7

**Project:** Former Energy International Parcel, MA

**ABN MCP List** 

Compound CAS No. Result RLUnits Q

(a) Result is from Run# 2

ND = Not detected RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



### Page 1 of 1

# **Report of Analysis**

**Date Sampled:** 12/02/10

**Date Received:** 12/02/10

**Percent Solids:** 81.7

Client Sample ID: HA102\_4-8' Lab Sample ID: M96289-2

Matrix: SO - Soil Method: MADEP VPH REV 1.1

**Project:** Former Energy International Parcel, MA

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** GBH929 Run #1 BH17834.D 1 12/08/10 WS n/an/a

Run #2

**Final Volume Methanol Aliquot Initial Weight** 

Run #1 9.90 g 11.0 ml 100 ul

Run #2

### **Volatile TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C5- C8 Aliphatics (Unadj.) C9- C12 Aliphatics (Unadj.) C9- C10 Aromatics (Unadj.) C5- C8 Aliphatics C9- C12 Aliphatics	ND 167000 84500 ND 81800	7900 7900 7900 7900 7900	ug/kg ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	ts
615-59-8 615-59-8	2,5-Dibromotoluene 2,5-Dibromotoluene	129% 130%		70-13 70-13	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



of Analysis Page 1 of 1

**Date Sampled:** 12/02/10

Client Sample ID: HA102\_4-8' Lab Sample ID: M96289-2

Matrix:SO - SoilDate Received:12/02/10Method:MADEP EPH REV 1.1 SW846 3545Percent Solids:81.7

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BI2784.D 1 12/15/10 JD 12/10/10 OP23590 GBI104

Run #2

Initial Weight Final Volume
Run #1 11.9 g 2.0 ml

Run #2

### **Extractable TPHC Ranges**

CAS No.	Compound	Result	RL	Units Q
	C11-C22 Aromatics (Unadj.) C9-C18 Aliphatics C19-C36 Aliphatics C11-C22 Aromatics	417000 278000 167000 334000	21000 10000 10000 21000	ug/kg ug/kg ug/kg ug/kg
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
84-15-1 321-60-8 580-13-2 3386-33-2	o-Terphenyl 2-Fluorobiphenyl 2-Bromonaphthalene 1-Chlorooctadecane	122% 100% 78% 38% <sup>a</sup>		40-140% 40-140% 40-140% 40-140%

(a) Outside control limits due to possible matrix interference. Confirmed by refractionation.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



W

 Client Sample ID:
 HA102\_4-8'

 Lab Sample ID:
 M96289-2

 Matrix:
 SO - Soil

 Date Received:
 12/02/10

 Percent Solids:
 81.7

**Project:** Former Energy International Parcel, MA

### **Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony <sup>a</sup>	< 1.8	1.8	mg/kg	2	12/06/10	12/07/10 DA	SW846 6010C <sup>3</sup>	SW846 3050B <sup>4</sup>
Arsenic	16.1	0.89	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Barium	70.5	4.5	mg/kg	1	12/06/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Beryllium	< 0.36	0.36	mg/kg	1	12/06/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Cadmium	0.46	0.36	mg/kg	1	12/06/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Chromium	12.3	0.89	mg/kg	1	12/06/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Lead	210	0.89	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Mercury	1.5	0.073	mg/kg	2	12/07/10	12/08/10 PY	SW846 7471A <sup>2</sup>	SW846 7471A <sup>5</sup>
Nickel	20.1	3.6	mg/kg	1	12/06/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Selenium	< 0.89	0.89	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Silver	< 0.45	0.45	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Thallium	< 0.89	0.89	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Vanadium	30.4	0.89	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Zinc	239	1.8	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>

(1) Instrument QC Batch: MA12497
(2) Instrument QC Batch: MA12500
(3) Instrument QC Batch: MA12501
(4) Prep QC Batch: MP16338
(5) Prep QC Batch: MP16345

(a) Elevated RL due to dilution required for matrix interference.

Page 1 of 1

Client Sample ID: HA102\_4-8'
Lab Sample ID: M96289-2
Matrix: SO - Soil

**Date Sampled:** 12/02/10 **Date Received:** 12/02/10 **Percent Solids:** 81.7

**Project:** Former Energy International Parcel, MA

# **General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	7.4			1	12/03/10	MA	SW846 CHAP7
Cyanide Reactivity	< 1.8	1.8	mg/kg	1	12/08/10	BF	SW846 CHAP7
Ignitability (Flashpoint)	> 230		Deg. F	1	12/08/10	BF	SW846 1020
Redox Potential Vs H2	392		mv	1	12/03/10	MC	ASTM D1498-76M
Solids, Percent	81.7		%	1	12/03/10	HS	SM21 2540 B MOD.
Sulfide Reactivity	< 61	61	mg/kg	1	12/08/10	BF	SW846 CHAP7

Matrix:

# **Report of Analysis**

Page 1 of 1

Client Sample ID: HA102\_4-8' Lab Sample ID: M96289-2A

**Date Sampled:** 12/02/10 **Date Received:** 12/02/10

**Percent Solids:** 81.7

**Project:** Former Energy International Parcel, MA

# Metals Analysis, TCLP Leachate SW846 1311

SO - Soil

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	<b>Prep Method</b>
Lead	0.48	D008	5.0	0.010	mg/l	1	12/09/10	12/10/10 DA	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA12508

(2) Prep QC Batch: MP16354

RL = Reporting Limit

MCL = Maximum Contamination Level (40 CFR 261 6/96)



C

Client Sample ID: HA101\_0-4' Lab Sample ID: M96289-3

**Date Sampled:** 12/02/10Matrix: SO - Soil **Date Received:** 12/02/10 Method: Percent Solids: 89.0 SW846 8260B

**Project:** Former Energy International Parcel, MA

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 R18678.D 1 12/09/10 GKMSR666 n/an/a

Run #2

**Final Volume Methanol Aliquot Initial Weight** 

Run #1 10.0 ml 100 ul 10.4 g

Run #2

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	300	ug/kg	
71-43-2	Benzene	ND	30	ug/kg	
108-86-1	Bromobenzene	ND	300	ug/kg	
74-97-5	Bromochloromethane	ND	300	ug/kg	
75-27-4	Bromodichloromethane	ND	120	ug/kg	
75-25-2	Bromoform	ND	120	ug/kg	
74-83-9	Bromomethane	ND	120	ug/kg	
78-93-3	2-Butanone (MEK)	ND	300	ug/kg	
104-51-8	n-Butylbenzene	ND	300	ug/kg	
135-98-8	sec-Butylbenzene	ND	300	ug/kg	
98-06-6	tert-Butylbenzene	ND	300	ug/kg	
75-15-0	Carbon disulfide	ND	300	ug/kg	
56-23-5	Carbon tetrachloride	ND	120	ug/kg	
108-90-7	Chlorobenzene	ND	120	ug/kg	
75-00-3	Chloroethane	ND	300	ug/kg	
67-66-3	Chloroform	ND	120	ug/kg	
74-87-3	Chloromethane	ND	300	ug/kg	
95-49-8	o-Chlorotoluene	ND	300	ug/kg	
106-43-4	p-Chlorotoluene	ND	300	ug/kg	
108-20-3	Di-Isopropyl ether	ND	120	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	300	ug/kg	
124-48-1	Dibromochloromethane	ND	120	ug/kg	
106-93-4	1,2-Dibromoethane	ND	120	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	120	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	120	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	120	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	120	ug/kg	
75-34-3	1,1-Dichloroethane	ND	120	ug/kg	
107-06-2	1,2-Dichloroethane	ND	120	ug/kg	
75-35-4	1,1-Dichloroethene	ND	120	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	120	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	120	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: HA101\_0-4' Lab Sample ID: M96289-3

Matrix: SO - Soil Method: SW846 8260B

**Project:** Former Energy International Parcel, MA

# Percent Solids: 89.0

**Date Sampled:** 12/02/10

**Date Received:** 12/02/10

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	120	ug/kg	
142-28-9	1,3-Dichloropropane	ND	300	ug/kg	
594-20-7	2,2-Dichloropropane	ND	300	ug/kg	
563-58-6	1,1-Dichloropropene	ND	300	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	120	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	120	ug/kg	
123-91-1	1,4-Dioxane	ND	1500	ug/kg	
60-29-7	Ethyl Ether	ND	300	ug/kg	
100-41-4	Ethylbenzene	ND	120	ug/kg	
87-68-3	Hexachlorobutadiene	ND	300	ug/kg	
591-78-6	2-Hexanone	ND	300	ug/kg	
98-82-8	Isopropylbenzene	ND	300	ug/kg	
99-87-6	p-Isopropyltoluene	ND	300	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	120	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	300	ug/kg	
74-95-3	Methylene bromide	ND	300	ug/kg	
75-09-2	Methylene chloride	ND	120	ug/kg	
91-20-3	Naphthalene	ND	300	ug/kg	
103-65-1	n-Propylbenzene	ND	300	ug/kg	
100-42-5	Styrene	ND	300	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	300	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	120	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	300	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	120	ug/kg	
127-18-4	Tetrachloroethene	ND	120	ug/kg	
109-99-9	Tetrahydrofuran	ND	600	ug/kg	
108-88-3	Toluene	ND	300	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	300	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	300	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	120	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	120	ug/kg	
79-01-6	Trichloroethene	ND	120	ug/kg	
75-69-4	Trichlorofluoromethane	ND	120	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	300	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	300	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	300	ug/kg	
75-01-4	Vinyl chloride	ND	120	ug/kg	
	m,p-Xylene	ND	120	ug/kg	
95-47-6	o-Xylene	ND	120	ug/kg	
1330-20-7	Xylene (total)	ND	120	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: HA101\_0-4'

 Lab Sample ID:
 M96289-3
 Date Sampled:
 12/02/10

 Matrix:
 SO - Soil
 Date Received:
 12/02/10

 Method:
 SW846 8260B
 Percent Solids:
 89.0

**Project:** Former Energy International Parcel, MA

#### **VOA MCP List**

CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		70-130%
2037-26-5	Toluene-D8	115%		70-130%
460-00-4	4-Bromofluorobenzene	115%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ \, \text{Indicates analyte found in associated method blank}$ 



By

PR

Client Sample ID: HA101\_0-4' Lab Sample ID: M96289-3

File ID

S19974.D

SO - Soil Method: SW846 8270C SW846 3510C

**Project:** Former Energy International Parcel, MA

DF

1

Analyzed

12/13/10

**Date Sampled:** 12/02/10**Date Received:** 12/02/10

Percent Solids: 89.0

**Analytical Batch Prep Date Prep Batch** 12/06/10 OP23538 MSS826

Run #1 Run #2

Matrix:

**Final Volume Initial Weight** 

Run #1 1.0 ml 20.1 g

Run #2

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	560	ug/kg	
95-57-8	2-Chlorophenol	ND	280	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	560	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	560	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	560	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1100	ug/kg	
95-48-7	2-Methylphenol	ND	560	ug/kg	
	3&4-Methylphenol	ND	560	ug/kg	
88-75-5	2-Nitrophenol	ND	560	ug/kg	
100-02-7	4-Nitrophenol	ND	1100	ug/kg	
87-86-5	Pentachlorophenol	ND	560	ug/kg	
108-95-2	Phenol	ND	280	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	560	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	560	ug/kg	
83-32-9	Acenaphthene	ND	280	ug/kg	
208-96-8	Acenaphthylene	ND	280	ug/kg	
98-86-2	Acetophenone	ND	560	ug/kg	
62-53-3	Aniline	ND	560	ug/kg	
120-12-7	Anthracene	712	280	ug/kg	
56-55-3	Benzo(a)anthracene	1400	280	ug/kg	
50-32-8	Benzo(a)pyrene	1100	280	ug/kg	
205-99-2	Benzo(b)fluoranthene	944	280	ug/kg	
191-24-2	Benzo(g,h,i)perylene	624	280	ug/kg	
207-08-9	Benzo(k)fluoranthene	823	280	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	280	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	280	ug/kg	
91-58-7	2-Chloronaphthalene	ND	280	ug/kg	
106-47-8	4-Chloroaniline	ND	560	ug/kg	
218-01-9	Chrysene	1490	280	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	280	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	280	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	280	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



**Date Sampled:** 12/02/10

**Date Received:** 12/02/10

Percent Solids: 89.0

Client Sample ID: HA101\_0-4' Lab Sample ID: M96289-3

Matrix: SO - Soil Method:

SW846 8270C SW846 3510C

**Project:** Former Energy International Parcel, MA

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units Q
95-50-1	1,2-Dichlorobenzene	ND	280	ug/kg
122-66-7	1,2-Diphenylhydrazine	ND	280	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	280	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	280	ug/kg
121-14-2	2,4-Dinitrotoluene	ND	560	ug/kg
606-20-2	2,6-Dinitrotoluene	ND	560	ug/kg
91-94-1	3,3'-Dichlorobenzidine	ND	280	ug/kg
53-70-3	Dibenzo(a,h)anthracene	ND	280	ug/kg
132-64-9	Dibenzofuran	ND	280	ug/kg
84-74-2	Di-n-butyl phthalate	ND	280	ug/kg
117-84-0	Di-n-octyl phthalate	ND	280	ug/kg
84-66-2	Diethyl phthalate	ND	280	ug/kg
131-11-3	Dimethyl phthalate	ND	280	ug/kg
117-81-7	bis(2-Ethylhexyl)phthalate	ND	280	ug/kg
206-44-0	Fluoranthene	2730	280	ug/kg
86-73-7	Fluorene	ND	280	ug/kg
118-74-1	Hexachlorobenzene	ND	280	ug/kg
87-68-3	Hexachlorobutadiene	ND	280	ug/kg
77-47-4	Hexachlorocyclopentadiene	ND	560	ug/kg
67-72-1	Hexachloroethane	ND	280	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	654	280	ug/kg
78-59-1	Isophorone	ND	280	ug/kg
91-57-6	2-Methylnaphthalene	ND	280	ug/kg
91-20-3	Naphthalene	294	280	ug/kg
98-95-3	Nitrobenzene	ND	280	ug/kg
621-64-7	N-Nitroso-di-n-propylamine	ND	280	ug/kg
86-30-6	N-Nitrosodiphenylamine	ND	280	ug/kg
85-01-8	Phenanthrene	2350	280	ug/kg
129-00-0	Pyrene	2180	280	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	280	ug/kg
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	54%		30-130%
4165-62-2	Phenol-d5	58%		30-130%
118-79-6	2,4,6-Tribromophenol	74%		30-130%
4165-60-0	Nitrobenzene-d5	61%		30-130%
321-60-8	2-Fluorobiphenyl	74%		30-130%
1718-51-0	Terphenyl-d14	72%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$ 



**Date Sampled:** 12/02/10

Page 1 of 1

Client Sample ID: HA101\_0-4' Lab Sample ID: M96289-3

Matrix:SO - SoilDate Received:12/02/10Method:MADEP VPH REV 1.1Percent Solids:89.0

**Project:** Former Energy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BH17835.D 1 12/08/10 WS n/a n/a GBH929

Run #2

Initial Weight Final Volume Methanol Aliquot
Run #1 10.4 g 11.0 ml 100 ul
Run #2

### **Volatile TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C5- C8 Aliphatics (Unadj.) C9- C12 Aliphatics (Unadj.) C9- C10 Aromatics (Unadj.) C5- C8 Aliphatics C9- C12 Aliphatics	ND ND ND ND ND	6500 6500 6500 6500 6500	ug/kg ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	ts
615-59-8 615-59-8	2,5-Dibromotoluene 2,5-Dibromotoluene	120% 113%		70-13 70-13	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



C

Page 1 of 1

# **Report of Analysis**

Client Sample ID: HA101\_0-4' Lab Sample ID: M96289-3

Matrix: SO - Soil

Method: MADEP EPH REV 1.1 SW846 3545

**Project:** Former Energy International Parcel, MA

2.0 ml

**Date Sampled:** 12/02/10**Date Received:** 12/02/10

Percent Solids: 89.0

File ID DF **Prep Date Analytical Batch** Analyzed By **Prep Batch** Run #1 BI2725.D 1 12/13/10 JD 12/10/10 OP23590 **GBI102** Run #2

**Final Volume Initial Weight** 

Run #1 Run #2

### **Extractable TPHC Ranges**

11.4 g

CAS No.	Compound	Result	RL	Units	Q
	C11-C22 Aromatics (Unadj.) C9-C18 Aliphatics C19-C36 Aliphatics C11-C22 Aromatics	104000 13300 67400 88200	20000 9900 9900 20000	ug/kg ug/kg ug/kg ug/kg	
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Lim	its
84-15-1	o-Terphenyl	92%		40-1	40%
321-60-8	2-Fluorobiphenyl	88%		40-1	40%
580-13-2	2-Bromonaphthalene	66%		40-1	40%
3386-33-2	1-Chlorooctadecane	40%		40-1	40%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



Page 1 of 1

Client Sample ID: HA101\_0-4' Lab Sample ID: M96289-3 Matrix: SO - Soil

**Date Sampled:** 12/02/10 **Date Received:** 12/02/10 Percent Solids: 89.0

**Project:** Former Energy International Parcel, MA

### **Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	13.6	0.83	mg/kg	1	12/06/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Arsenic	10.3	0.83	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Barium	80.3	4.1	mg/kg	1	12/06/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Beryllium	0.40	0.33	mg/kg	1	12/06/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Cadmium	0.94	0.33	mg/kg	1	12/06/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Chromium	14.9	0.83	mg/kg	1	12/06/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Lead	346	0.83	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Mercury	1.1	0.070	mg/kg	2	12/07/10	12/08/10 PY	SW846 7471A <sup>2</sup>	SW846 7471A <sup>4</sup>
Nickel	18.5	3.3	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Selenium	< 0.83	0.83	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Silver	0.80	0.41	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Thallium	< 0.83	0.83	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Vanadium	24.7	0.83	mg/kg	1	12/06/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>
Zinc	616	1.7	mg/kg	1	12/06/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>3</sup>

(1) Instrument QC Batch: MA12497 (2) Instrument QC Batch: MA12500 (3) Prep QC Batch: MP16338 (4) Prep QC Batch: MP16345

Page 1 of 1

Client Sample ID: HA101\_0-4' Lab Sample ID: M96289-3 Matrix: SO - Soil

**Date Sampled:** 12/02/10 **Date Received:** 12/02/10 Percent Solids: 89.0

**Project:** Former Energy International Parcel, MA

# **General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	7.0			1	12/03/10	MA	SW846 CHAP7
Cyanide Reactivity	< 1.7	1.7	mg/kg	1	12/08/10	BF	SW846 CHAP7
Ignitability (Flashpoint)	> 230		Deg. F	1	12/08/10	BF	SW846 1020
Redox Potential Vs H2	425		mv	1	12/03/10	MC	ASTM D1498-76M
Solids, Percent	89		%	1	12/03/10	HS	SM21 2540 B MOD.
Sulfide Reactivity	< 56	56	mg/kg	1	12/08/10	BF	SW846 CHAP7

Matrix:

# **Report of Analysis**

Page 1 of 1

Client Sample ID: HA101\_0-4' Lab Sample ID: M96289-3A

**Project:** Former Energy International Parcel, MA

# Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	<b>Prep Method</b>
Lead	0.22	D008	5.0	0.010	mg/l	1	12/09/10	12/10/10 DA	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA12508

(2) Prep QC Batch: MP16354

RL = Reporting Limit

MCL = Maximum Contamination Level (40 CFR 261 6/96)



C

Client Sample ID: HA101\_4-8' Lab Sample ID: M96289-4

Matrix: SO - Soil Method: SW846 8260B

**Project:** Former Energy International Parcel, MA

Date Sampled: 12/02/10
Date Received: 12/02/10
Percent Solids: 90.5

nergy International Parcel, MA

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 R18691.D 1 12/09/10 GK n/a n/a MSR666

Run #2

Initial Weight Final Volume Methanol Aliquot

Run #1 10.6 g 10.0 ml 100 ul

Run #2

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	290	ug/kg	
71-43-2	Benzene	43.6	29	ug/kg	
108-86-1	Bromobenzene	ND	290	ug/kg	
74-97-5	Bromochloromethane	ND	290	ug/kg	
75-27-4	Bromodichloromethane	ND	110	ug/kg	
75-25-2	Bromoform	ND	110	ug/kg	
74-83-9	Bromomethane	ND	110	ug/kg	
78-93-3	2-Butanone (MEK)	ND	290	ug/kg	
104-51-8	n-Butylbenzene	ND	290	ug/kg	
135-98-8	sec-Butylbenzene	ND	290	ug/kg	
98-06-6	tert-Butylbenzene	ND	290	ug/kg	
75-15-0	Carbon disulfide	ND	290	ug/kg	
56-23-5	Carbon tetrachloride	ND	110	ug/kg	
108-90-7	Chlorobenzene	ND	110	ug/kg	
75-00-3	Chloroethane	ND	290	ug/kg	
67-66-3	Chloroform	ND	110	ug/kg	
74-87-3	Chloromethane	ND	290	ug/kg	
95-49-8	o-Chlorotoluene	ND	290	ug/kg	
106-43-4	p-Chlorotoluene	ND	290	ug/kg	
108-20-3	Di-Isopropyl ether	ND	110	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	290	ug/kg	
124-48-1	Dibromochloromethane	ND	110	ug/kg	
106-93-4	1,2-Dibromoethane	ND	110	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	110	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	110	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	110	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	110	ug/kg	
75-34-3	1,1-Dichloroethane	ND	110	ug/kg	
107-06-2	1,2-Dichloroethane	ND	110	ug/kg	
75-35-4	1,1-Dichloroethene	ND	110	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	110	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	110	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



 Client Sample ID:
 HA101\_4-8'

 Lab Sample ID:
 M96289-4
 Date Sampled:
 12/02/10

 Matrix:
 SO - Soil
 Date Received:
 12/02/10

 Method:
 SW846 8260B
 Percent Solids:
 90.5

**Project:** Former Energy International Parcel, MA

#### **VOA MCP List**

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	110	ug/kg	
142-28-9	1,3-Dichloropropane	ND	290	ug/kg	
594-20-7	2,2-Dichloropropane	ND	290	ug/kg	
563-58-6	1,1-Dichloropropene	ND	290	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	110	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	110	ug/kg	
123-91-1	1,4-Dioxane	ND	1400	ug/kg	
60-29-7	Ethyl Ether	ND	290	ug/kg	
100-41-4	Ethylbenzene	ND	110	ug/kg	
87-68-3	Hexachlorobutadiene	ND	290	ug/kg	
591-78-6	2-Hexanone	ND	290	ug/kg	
98-82-8	Isopropylbenzene	ND	290	ug/kg	
99-87-6	p-Isopropyltoluene	ND	290	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	110	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	290	ug/kg	
74-95-3	Methylene bromide	ND	290	ug/kg	
75-09-2	Methylene chloride	ND	110	ug/kg	
91-20-3	Naphthalene	426	290	ug/kg	
103-65-1	n-Propylbenzene	ND	290	ug/kg	
100-42-5	Styrene	ND	290	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	290	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	110	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	290	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	110	ug/kg	
127-18-4	Tetrachloroethene	ND	110	ug/kg	
109-99-9	Tetrahydrofuran	ND	570	ug/kg	
108-88-3	Toluene	ND	290	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	290	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	290	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	110	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	110	ug/kg	
79-01-6	Trichloroethene	ND	110	ug/kg	
75-69-4	Trichlorofluoromethane	ND	110	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	290	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	290	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	290	ug/kg	
75-01-4	Vinyl chloride	ND	110	ug/kg	
	m,p-Xylene	ND	110	ug/kg	
95-47-6	o-Xylene	ND	110	ug/kg	
1330-20-7	Xylene (total)	ND	110	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: HA101\_4-8' Lab Sample ID: M96289-4

 Lab Sample ID:
 M96289-4
 Date Sampled:
 12/02/10

 Matrix:
 SO - Soil
 Date Received:
 12/02/10

 Method:
 SW846 8260B
 Percent Solids:
 90.5

**Project:** Former Energy International Parcel, MA

#### **VOA MCP List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		70-130%
2037-26-5	Toluene-D8	114%		70-130%
460-00-4	4-Bromofluorobenzene	114%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ \, \text{Indicates analyte found in associated method blank}$ 



Client Sample ID: HA101\_4-8'
Lab Sample ID: M96289-4

 Matrix:
 SO - Soil

 Method:
 SW846 8270C
 SW846 3510C

**Project:** Former Energy International Parcel, MA

Date Sampled: 12/02/10
Date Received: 12/02/10
Percent Solids: 90.5

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 S19975.D 1 12/13/10 PR 12/06/10 OP23538 MSS826

Run #2

Initial Weight Final Volume

Run #1 20.5 g 1.0 ml

Run #2

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	540	ug/kg	
95-57-8	2-Chlorophenol	ND	270	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	540	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	540	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	540	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1100	ug/kg	
95-48-7	2-Methylphenol	ND	540	ug/kg	
	3&4-Methylphenol	ND	540	ug/kg	
88-75-5	2-Nitrophenol	ND	540	ug/kg	
100-02-7	4-Nitrophenol	ND	1100	ug/kg	
87-86-5	Pentachlorophenol	ND	540	ug/kg	
108-95-2	Phenol	ND	270	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	540	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	540	ug/kg	
83-32-9	Acenaphthene	537	270	ug/kg	
208-96-8	Acenaphthylene	740	270	ug/kg	
98-86-2	Acetophenone	ND	540	ug/kg	
62-53-3	Aniline	ND	540	ug/kg	
120-12-7	Anthracene	2550	270	ug/kg	
56-55-3	Benzo(a)anthracene	7540	270	ug/kg	
50-32-8	Benzo(a)pyrene	5800	270	ug/kg	
205-99-2	Benzo(b)fluoranthene	4340	270	ug/kg	
191-24-2	Benzo(g,h,i)perylene	2700	270	ug/kg	
207-08-9	Benzo(k)fluoranthene	4240	270	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	270	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	270	ug/kg	
91-58-7	2-Chloronaphthalene	ND	270	ug/kg	
106-47-8	4-Chloroaniline	ND	540	ug/kg	
218-01-9	Chrysene	6590	270	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	270	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	270	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	270	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: HA101\_4-8' Lab Sample ID: M96289-4

 Matrix:
 SO - Soil

 Method:
 SW846 8270C
 SW846 3510C

**Project:** Former Energy International Parcel, MA

### **Date Sampled:** 12/02/10 **Date Received:** 12/02/10 **Percent Solids:** 90.5

#### **ABN MCP List**

CAS No.	Compound	Result	RL	Units Q
95-50-1	1,2-Dichlorobenzene	ND	270	ug/kg
122-66-7	1,2-Diphenylhydrazine	ND	270	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	270	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	270	ug/kg
121-14-2	2,4-Dinitrotoluene	ND	540	ug/kg
606-20-2	2,6-Dinitrotoluene	ND	540	ug/kg
91-94-1	3,3'-Dichlorobenzidine	ND	270	ug/kg
53-70-3	Dibenzo(a,h)anthracene	1450	270	ug/kg
132-64-9	Dibenzofuran	571	270	ug/kg
84-74-2	Di-n-butyl phthalate	ND	270	ug/kg
117-84-0	Di-n-octyl phthalate	ND	270	ug/kg
84-66-2	Diethyl phthalate	ND	270	ug/kg
131-11-3	Dimethyl phthalate	ND	270	ug/kg
117-81-7	bis(2-Ethylhexyl)phthalate	ND	270	ug/kg
206-44-0	Fluoranthene	10700	270	ug/kg
86-73-7	Fluorene	902	270	ug/kg
118-74-1	Hexachlorobenzene	ND	270	ug/kg
87-68-3	Hexachlorobutadiene	ND	270	ug/kg
77-47-4	Hexachlorocyclopentadiene	ND	540	ug/kg
67-72-1	Hexachloroethane	ND	270	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	2900	270	ug/kg
78-59-1	Isophorone	ND	270	ug/kg
91-57-6	2-Methylnaphthalene	299	270	ug/kg
91-20-3	Naphthalene	662	270	ug/kg
98-95-3	Nitrobenzene	ND	270	ug/kg
621-64-7	N-Nitroso-di-n-propylamine	ND	270	ug/kg
86-30-6	N-Nitrosodiphenylamine	ND	270	ug/kg
85-01-8	Phenanthrene	6180	270	ug/kg
129-00-0	Pyrene	9050	270	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	270	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	59%		30-130%
4165-62-2	Phenol-d5	61%		30-130%
118-79-6	2,4,6-Tribromophenol	66%		30-130%
4165-60-0	Nitrobenzene-d5	63%		30-130%
321-60-8	2-Fluorobiphenyl	73%		30-130%
1718-51-0	Terphenyl-d14	72%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



## Page 1 of 1

# **Report of Analysis**

Client Sample ID: HA101\_4-8' Lab Sample ID: M96289-4

Matrix: SO - Soil

Method: MADEP VPH REV 1.1 **Project:** 

Former Energy International Parcel, MA

File ID DF **Prep Batch Analytical Batch** Analyzed By **Prep Date** WS GBH929 BH17836.D 1 12/08/10 n/an/a

**Date Sampled:** 12/02/10

**Date Received:** 12/02/10

**Percent Solids: 90.5** 

Run #1 Run #2

**Initial Weight Final Volume Methanol Aliquot** Run #1 11.0 ml 100 ul 10.6 g

Run #2

### **Volatile TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C5- C8 Aliphatics (Unadj.)	ND ND	6300	ug/kg	
	C9- C12 Aliphatics (Unadj.) C9- C10 Aromatics (Unadj.)	ND ND	6300 6300	ug/kg ug/kg	
	C5- C8 Aliphatics	ND	6300	ug/kg	
	C9- C12 Aliphatics	ND	6300	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its
615-59-8	2,5-Dibromotoluene	113%		70-1	30%
615-59-8	2,5-Dibromotoluene	109%		70-1	30%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



Page 1 of 1

**Date Sampled:** 12/02/10

Client Sample ID: HA101\_4-8' Lab Sample ID: M96289-4

Matrix: SO - Soil **Date Received:** 12/02/10 Method: MADEP EPH REV 1.1 SW846 3545 **Percent Solids: 90.5** 

**Project:** Former Energy International Parcel, MA

File ID DF **Prep Date Analytical Batch** Analyzed By **Prep Batch** Run #1 BI2740.D 1 12/14/10 JD 12/10/10 OP23590 **GBI102** 

Run #2

**Final Volume Initial Weight** 

Run #1 11.5 g 2.0 ml

Run #2

### **Extractable TPHC Ranges**

CAS No.	Compound	Result	RL	Units	Q
	C11-C22 Aromatics (Unadj.) C9-C18 Aliphatics C19-C36 Aliphatics C11-C22 Aromatics	219000 ND 22500 155000	19000 9600 9600 19000	ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its
84-15-1 321-60-8	o-Terphenyl 2-Fluorobiphenyl	117% 91%		40-1- 40-1-	
580-13-2 3386-33-2	2-Bromonaphthalene 1-Chlorooctadecane	64% 46%		40-1- 40-1-	40%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value



 Client Sample ID:
 HA101\_4-8'

 Lab Sample ID:
 M96289-4
 Date Sampled:
 12/02/10

 Matrix:
 SO - Soil
 Date Received:
 12/02/10

 Percent Solids:
 90.5

**Project:** Former Energy International Parcel, MA

### **Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	63.6	0.84	mg/kg	1	12/06/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Arsenic	13.1	0.84	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Barium	97.8	4.2	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Beryllium	< 0.34	0.34	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Cadmium	< 0.34	0.34	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Chromium	13.1	0.84	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Lead	1690	4.2	mg/kg	5	12/06/10	12/07/10 DA	SW846 6010C <sup>3</sup>	SW846 3050B <sup>4</sup>
Mercury	1.6	0.17	mg/kg	5	12/07/10	12/08/10 PY	SW846 7471A <sup>2</sup>	SW846 7471A <sup>5</sup>
Nickel	14.5	3.4	mg/kg	1	12/06/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Selenium	< 0.84	0.84	mg/kg	1	12/06/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Silver	5.2	0.42	mg/kg	1	12/06/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Thallium	< 0.84	0.84	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Vanadium	21.1	0.84	mg/kg	1	12/06/10	12/06/10 DA	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>
Zinc	340	1.7	mg/kg	1	12/06/10	12/06/10 da	SW846 6010C <sup>1</sup>	SW846 3050B <sup>4</sup>

(1) Instrument QC Batch: MA12497
(2) Instrument QC Batch: MA12500
(3) Instrument QC Batch: MA12501
(4) Prep QC Batch: MP16338
(5) Prep QC Batch: MP16345

Page 1 of 1

Client Sample ID: HA101\_4-8'
Lab Sample ID: M96289-4
Matrix: SO - Soil

**Date Sampled:** 12/02/10 **Date Received:** 12/02/10 **Percent Solids:** 90.5

**Project:** Former Energy International Parcel, MA

# **General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	7.2			1	12/03/10	MA	SW846 CHAP7
Cyanide Reactivity	< 1.7	1.7	mg/kg	1	12/08/10	BF	SW846 CHAP7
Ignitability (Flashpoint)	> 230		Deg. F	1	12/08/10	BF	SW846 1020
Redox Potential Vs H2	429		mv	1	12/03/10	MC	ASTM D1498-76M
Solids, Percent	90.5		%	1	12/03/10	HS	SM21 2540 B MOD.
Sulfide Reactivity	< 55	55	mg/kg	1	12/08/10	BF	SW846 CHAP7

Page 1 of 1

Client Sample ID: HA101\_4-8'

 Lab Sample ID:
 M96289-4A
 Date Sampled:
 12/02/10

 Matrix:
 SO - Soil
 Date Received:
 12/02/10

 Percent Solids:
 90.5

**Project:** Former Energy International Parcel, MA

# Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	<b>Prep Method</b>
Lead	1.9	D008	5.0	0.010	mg/l	1	12/09/10	12/09/10 DA	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA12508

(2) Prep QC Batch: MP16354

RL = Reporting Limit

MCL = Maximum Contamination Level (40 CFR 261 6/96)



C



Misc. Forms

Custody Documents and Other Forms

# Includes the following where applicable:

- Certification Exceptions
- Parameter Certifications (MA)
- · Chain of Custody
- MCP Form
- EPH Form
- VPH Form
- Sample Tracking Chronicle



**Parameter Certification Exceptions** Job Number: M96289

Account: HALEYALD Haley & Aldrich

Former Energy International Parcel, MA Project:

The following parameters included in this report are exceptions to NELAC certification.

The certification status of each is indicated below.

Parameter	CAS#	Method	Mat	Certification Status
tert-Amyl Methyl Ether	994-05-8	SW846 8260B	SO	Certified by SOP MMS105/GC-MS
tert-Butyl Ethyl Ether	637-92-3	SW846 8260B	SO	Certified by SOP MMS105/GC-MS
Di-Isopropyl ether Tetrahydrofuran	108-20-3 109-99-9	SW846 8260B SW846 8260B	SO SO	Certified by SOP MMS105/GC-MS Certified by SOP MMS105/GC-MS



HALEY&z ALDRICH	Haley & Aldrich, Inc. 465 Medford St., Suite 2200.	CHAIN	OF CUSTODY	PECORI	MGG 89  Phone (617) 886-7400  Fax (617) 886-7600
ALDRICII	Boston, MA 02129-1400	CIMILITY	or costobi	RECOR	Page ( of )
I&A FILE NO.	06318-502	LABORATORY	toutest	DELIVER'	
ROJECT NAME	or Energy International F		Millerugh, MA		DUND TIME IS THE
&A CONTACT	J. Kilmin	CONTACT	70011200 300 700 1.		MANAGER Cale 1 Arthur
			Aualysis Requested		CERCE CHAIN-
Sample No.	Date Time Depth 7	0000	908 6		Comments
Sample 110.	Date Time Depth 7	type U a a	Hall Strice All Strice	Number of Containers	(special instructions, precautions, additional method numbers, etc
11.0	<del>                                      </del>	VOA ABNs PAH ou MCP M	Pull: Full: Full: Common TCL		
HA102-0-4"	144100850 0-41 50	;   X; <del>/ X</del> / ;	$\times$ $\times$ $\times$ -	-1 4	Laboratory to use applicable DEP CAM methods, unless otherwis directed.
HA102-4-8'	0930 4-8		$\times x$ $\times$	·	
HA101_0-4'	12000-4,		XX X	3 <b>4</b>	DVX-8260
14-101 4-8°	N 1250 04-8 V	L XXX		u <b>u</b>	DSW 8270
HA 101 _4-8 HA101_ <b>4-8</b>	0930 4-8' 1200 0-4' 1250 0-4-8' 1250 4-8'				3 Metals EPA 6010++110
······································		V			3 Metals EPA 6010+7470 GNPH Cabon Paupes MADEP ON- GEPH C Ranges MADEP ON- alvaste Churacterist 25
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in butter Ded	San Print			Amber Glass	I m Telplant.
m Ital	Firm ALWE			Plastic Bottle	l '
ate 2/2/10 Time	Date 12/210 Time 140	20		Preservative	15 10TOT > 30 M/Kg ru
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ite /2/2/10 Time		<u> </u>		Clear Glass	
elinquished by	Received by	KG A	<del></del>	Preservative	Evidence samples were tampered with? YES NO
gn	Sign	90M/500	<del>&gt;</del>	Volume	If YES, please explain in section below.
int	Print		PRESERVATION KEY		
m	Firm	A Sample chilled C 1	NaOII E H <sub>2</sub> SO <sub>4</sub> G M	ethanol	113,1006
atc Time	Date Time	B Sample filtered D I	INO, F HCL H W	/atcr/NaHSO4 (circle)	
Presumntive Cartainte De	Package is needed, initial all sections:	Presumptive Certainty Data Pac	kage (Laboratory to use applicable DEP CA	AM methods)	
The required mini	num field QC samples, as designated in BWSC CAN	( VII have been on will be collected as		4 6 44	Required Reporting Limits and Data Quality Objectives
Spike (MS	) samples for MCP Metals and/or Cyanide are includ	led and identified herein.	appropriate, to meet the requirements of Presu	impuve Certainty.	ØSi □Si □GW1
	tody Record (specify) includes		Drinking Water Samples.	İ	
	setody Record identifies complex defined Detection				
If this Chain of C	stody Record identifies samples defined as Drinking boratory should (specify if applicable)and	. Water Samples, Trip Blanks and Field alyz	Duplicates are included and identified and ana	dysis of TICs are required,	□ RC-GW2

M96289: Chain of Custody

Page 1 of 1



# Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup

# Exhibit VII A-2: MassDEP Analytical Protocol Certification Form

			M	assDEP	Analytica	l Pr	rotocol Certificat	tio	n Form				
Labor	atory Name:		Accutest Laborator	ies of Nev	w England				Project #:	M962	89		
Proje	ct Location:		Former Energy Inte	rnational	Parcel, MA	Ą			MADEP RTN	None			
	This form provides certifications for the following data set: list Laboratory Sample ID Numbers(s) M96289-1,M96289-2,M96289-2A,M96289-3A,M96289-3A,M96289-4A,M96289-4A,M96289-4AD M96289-4AS,M96289-4D,M96289-4S  Test method: Refer to case narrative.												
M	atrices:	Groundw	vater/Surface Water ()	Soil	/Sediment (	X)	Drinking Water	()	Air (	)		Other	()
CAMI	Protocol (che	ck all that	apply below):										
	8260 VOC	(X)	7470/7471 Hg (X	) MassDI	EP VPH (	X) 8	8081 Pesticides	()	7196 Hex Cr	()		Mass DEP APH	()
	CAM IIA		CAM III B	CAM IV	′ A	_ (	CAM V B		CAM VI B			CAM IX A	
	8270 SVOC CAM II B		CAM III C	CAM IV E	`		8151 Herbicides CAM V C	()	8330 Explosives CAM VIII A	()		TO-15 VOC CAM IX B	()
1	6010 Metals CAM III A	(X)	6020 Metals () CAM III D	8082 P	•	´	9014 Total Cyanide/PAC CAM VI A	()	6860 Perchlorate CAM VIII B	()			
	Affirmative	Respons	ses to Questions A	Through	F are req	uire	ed for "Presump	tiv	e Certainty status	6			
1 1		served (ir	eived in a condition ncluding temperature?						• • • • • • • • • • • • • • • • • • • •	✓	Yes	□ No	
В	protocol(s) f	ollowed?	nethod(s) and all ass							<b>V</b>	Yes	☐ No	
			rective actions and a ted for all identified p	•	•		•		selected CAM	<b>V</b>	Yes	□No	
D		urance a	eport comply with all nd Quality Control G al Data"?					CAI	M VII A,	<b>V</b>	Yes	□No	
	a. VPH, EPI	H, and AF	I TO-15 only: PH Methods only:  W fer to the individual r				•			<b>√</b>	Yes	□No	
			ethods only: Was th							<b>✓</b>	Yes		
			AM protocol QC and poratory narrative (in							<b>√</b>	Yes	∐No	
	Responses	to ques	tions G, H, and I be	low is red	quired for	"Pr	resumptive Certa	ain	ty" status				
	Were the re selected CA		nits at or below all C	AM repor	ting limits s	spec	cified in the			1	Yes	☐ No	1
	Data User N	Note: Da	ta that achieve "Press requirements	•		-	•		•	data u	seabi	lity	
			ance standards spe								Yes	✓ No	1
1		•	for the complete ar		•					<u></u>	Yes	✓ No	1
			ses must be addre						•	uve.			
1	-		under the pains an ble for obtaining th	-		-							
analy	rtical report	is, to the	best of my knowle	dge and	belief, acc	cura	ate and complete	е.					
Signa	ature:	p.	on pro			<u> </u>	Position:	La	boratory Director				
Printe	ed Name:		Reza Tand			<u> </u>	Date:		12/22/2010				



Matrix	Aqueous	Soil 🗸	Sediment	Other		
Containers	Satisfactory <b>✓</b> B	Broken 🗌	Leaking			
Aqueous Preservativ	/e N/A ✓ p	H <= 2 □	pH > 2			
Temperature	Received on Ice	Receive	d at 4 Deg. C	Other	<b>✓</b>	Rec'd at 1.9 deg C.
Extraction Method	SW846 3545				-	
Method for Ranges: Method for Targets:	MADEP EPH REV 1.1	Client ID: Date Collected:		La Date Rece	ab ID: eived:	M96289-1 12/2/2010
EPH Fractionation Surrogate Standards.	Aliphatic: 1-Chlorooctadecane Aromatic: o-Terphenyl 2-Fluorobiphenyl	Date Extracted 12/10/2010 % Solids: 88.6	12/15	ite Run: /2010 ilution:		Last Date Run: N/A High Dilution: N/A
Unadjusted Ranges C11-C22 Aromatics	2-Bromonaphthalene  CAS #  (Unadj.)	<u>Units</u> ug/kg	Result 747000 <sup>A</sup>	RDL 20000	Q	.4/1

Adjusted Ranges			
C9-C18 Aliphatics	ug/kg	1410000 <sup>A</sup>	10000
C19-C36 Aliphatics	ug/kg	710000 <sup>A</sup>	10000
C11-C22 Aromatics	ug/kg	739000 <sup>c</sup>	20000
Surrogate Recoveries			Acceptance Range
1-Chlorooctadecane	%	49	40-140 %
o-Terphenyl	%	78	40-140 %
2-Fluorobiphenyl	%	127	40-140 %
2-Bromonaphthalene	%	231 <sup>F</sup>	40-140 %

#### **Footnotes**

- Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range
- Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range. C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes
- Outside control limits due to possible matrix interference. Confirmed by refractionation.
- A 'J' qualifier indicates an estimated value

✓ Yes □ Were all QA/QC procedures REQUIRED by the EPH Method followed? No- Details Attatched Were all performance/acceptance standards for required QA/QC procedures achieved? ☐ Yes 🗸 No- Details Attatched Were any significant modifications made to the EPH method, as specified in Sect. 11.3? ✓ No Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtainig the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature /

**Postition** 

**Laboratory Director** 

**Printed Name Reza Tand**  Date

12/22/2010



			•			
Matrix	Aqueous	Soil <b>✓</b>	Sediment [	Other		
Containers	Satisfactory <b>✓</b>	Broken 🗌	Leaking [			
Aqueous Preservati	ve N/A ✓	oH <= 2 □	pH > 2			
Temperature	Received on Ice	Received	at 4 Deg. C	Other	<b>V</b>	Rec'd at 1.9 deg C.
Extraction Method	SW846 3545					
Method for Ranges:	MADEP EPH REV 1.1	Client ID: HA	102_4-8'	La	b ID:	M96289-2
Method for Targets:	MADEP EPH REV 1.1	Date Collected: 12	/2/2010	Date Rece	ived:	12/2/2010
EPH Surrogate Stds.	Aliphatic: 1-Chlorooctadecane Aromatic: o-Terphenyl	Date Extracted: 12/10/2010		ate Run: 5/2010		Last Date Run: N/A
EPH Fractionation Surrogate Standards.	2-Fluorobiphenyl 2-Bromonaphthalene	% <b>Solids:</b> 81.7	Low D	<b>ilution:</b> 1		High Dilution: N/A
Unadjusted Ranges	CAS#		Result	RDL	<u>Q</u>	
C11-C22 Aromatics	(I Inadi )	ua/ka	417000 <sup>A</sup>	21000		

Adjusted Ranges			
C9-C18 Aliphatics	ug/kg	278000 <sup>A</sup>	10000
C19-C36 Aliphatics	ug/kg	167000 <sup>A</sup>	10000
C11-C22 Aromatics	ug/kg	334000 <sup>c</sup>	21000
Surrogate Recoveries			Acceptance Range
1-Chlorooctadecane	%	38 <sup>F</sup>	40-140 %
o-Terphenyl	%	122	40-140 %
2-Fluorobiphenyl	%	100	40-140 %
2-Bromonaphthalene	%	78	40-140 %

#### **Footnotes**

- Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range
- Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range. C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes
- Outside control limits due to possible matrix interference. Confirmed by refractionation.
- A 'J' qualifier indicates an estimated value

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Signature /

**Postition** 

**Laboratory Director** 

Date 12/22/2010 **Printed Name Reza Tand** 



Matrix	Aqueous	Soil 🗸	Sediment	Other		
Containers	Satisfactory <b>✓</b>	Broken 🗌	Leaking			
<b>Aqueous Preservat</b>	ive N/A ✓	oH <= 2 □	pH > 2			
Temperature	Received on Ice	Received	at 4 Deg. C	Other	<b>✓</b>	Rec'd at 1.9 deg C.
<b>Extraction Method</b>	SW846 3545					
Method for Ranges:	MADEP EPH REV 1.1	Client ID: HA	101_0-4'	La	b ID:	M96289-3
Method for Targets:	MADEP EPH REV 1.1	Date Collected: 12/	2/2010	Date Rece	ived:	12/2/2010
EPH Surrogate Stds.	Aliphatic: 1-Chlorooctadecane	Date Extracted:	First D	ate Run:		Last Date Run:
	Aromatic: o-Terphenyl	12/10/2010	12/13/2010			N/A
EPH Fractionation	2-Fluorobiphenyl	% Solids:	Low Dilution:		High Dilution:	
Currente Ctenderde	2-Bromonaphthalene	89		1		N/A
	•		<b>5</b> <i>1</i>	221	_	
Unadjusted Ranges	CAS #	<u>Units</u>	Result	RDL	<u>Q</u>	
C11-C22 Aromatics (Unadi.)		ua/ka	104000 <sup>A</sup>	20000		

Adjusted Ranges			
C9-C18 Aliphatics	ug/kg	13300 <sup>A</sup>	9900
C19-C36 Aliphatics	ug/kg	67400 <sup>A</sup>	9900
C11-C22 Aromatics	ug/kg	88200 <sup>c</sup>	20000
Surrogate Recoveries			Acceptance Range
1-Chlorooctadecane	%	40	40-140 %
o-Terphenyl	%	92	40-140 %
2-Fluorobiphenyl	%	88	40-140 %
2-Bromonaphthalene	%	66	40-140 %

#### Footnotes

✓ Yes □ Were all QA/QC procedures REQUIRED by the EPH Method followed? No- Details Attatched ✓ Yes 🗌 Were all performance/acceptance standards for required QA/QC procedures achieved? No- Details Attatched Were any significant modifications made to the EPH method, as specified in Sect. 11.3? ✓ No Yes- Details Attatched

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Signature /

**Postition** 

**Laboratory Director** 

**Printed Name** 

**Reza Tand** 

Date 12/22/2010



Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range. C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

A 'J' qualifier indicates an estimated value

Matrix	Aqueous	Soil <b>✓</b>	Sediment	Other		
Containers	Satisfactory <b>✓</b>	Broken 🗌	Leaking			
Aqueous Preservati	ve N/A ✓	oH <= 2 □	pH > 2			
Temperature	Received on Ice	Received	at 4 Deg. C	Other	<b>✓</b>	Rec'd at 1.9 deg C.
Extraction Method	SW846 3545					
Method for Ranges:	MADEP EPH REV 1.1	Client ID: HA	101_4-8'	La	b ID:	M96289-4
Method for Targets:	MADEP EPH REV 1.1	Date Collected: 12	/2/2010	Date Rece	ived:	12/2/2010
EPH Surrogate Stds.	Aliphatic: 1-Chlorooctadecane Aromatic: o-Terphenyl	Date Extracted: 12/10/2010		te Run: -/2010		Last Date Run: N/A
EPH Fractionation Surrogate Standards.	2-Fluorobiphenyl 2-Bromonaphthalene	<b>% Solids:</b> 90.5	Low D	ilution: 1		High Dilution: N/A
Unadjusted Ranges	CAS#		Result	<u>RDL</u>	<u>Q</u>	
C11-C22 Aromatics	(Linadi )	ua/ka	219000	19000		

ug/kg	ND <sup>A</sup>	9600
ug/kg	22500 <sup>A</sup>	9600
ug/kg	155000 <sup>c</sup>	19000
		Acceptance Range
%	46	40-140 %
%	117	40-140 %
%	91	40-140 %
%	64	40-140 %
	ug/kg ug/kg % %	ug/kg 22500 <sup>^</sup> ug/kg 155000 <sup>^</sup> % 46 % 117 % 91

#### **Footnotes**

- Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range
- Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range. C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes
- A 'J' qualifier indicates an estimated value

✓ Yes □ Were all QA/QC procedures REQUIRED by the EPH Method followed? No- Details Attatched ✓ Yes 🗌 Were all performance/acceptance standards for required QA/QC procedures achieved? No- Details Attatched Were any significant modifications made to the EPH method, as specified in Sect. 11.3? ✓ No Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtainig the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature /

**Postition** 

**Laboratory Director** 

**Printed Name Reza Tand**  Date 12/22/2010



MADEP VPH FORM								
Matrix	Aqueous		Soil 🗸	Sediment		Other		
Containers	Satisfactor	y 🗸 🔝 📗	Broken 🗌	Leaking				
Aqueous Preservati	ves N/A	<b>√</b> p	oH <= 2 □	pH > 2				
Temperature	Received o	n Ice	Recei	ived at 4 Deg. C	; <u> </u>	Other	✓ Rec'd at 1.	.9 deg C.
Methanol	Methanol C	Covering	Soil. (mL Met	hanol/g soil: 1:	1 +/- 2	5%)		
Method for Ranges:	MADEP VPH	REV 1.1		HA102_0-4'		Lab	ID: M96289-1	
Method for Target Analyt	es: MADEP VPH	REV 1.1	Date Collected:	12/2/2010	D	ate Receive	ed: 12/2/2010	
VPH Surrogate Standard	s		Date Extracte	ed: First [	Date Ru	n:	Last Date	e Run:
PID: 2,5-Dibromoto	oluene		N/A	12/	/8/2010		12/08/10	
FID: 2,5-Dibromoto	oluene		% Solids:	% Solids: Low Dilution:		High Dil	High Dilution:	
			88.6		1		N/A	4
Unadjusted Ranges		CAS#	Elution Ran	ge <u>Units</u>		Result	<u>RDL</u>	<u>Q</u>
C5- C8 Aliphatics (Ur	nadj.)		N/A	ug/kg		ND <sup>A</sup>	58000	
C9- C10 Aromatics (l	Jnadj.)		N/A	ug/kg		194000 A	58000	
C9- C12 Aliphatics (L	Inadj.)		N/A	ug/kg		423000 <sup>A</sup>	58000	
Adjusted Ranges								
C5- C8 Aliphatics			N/A	ug/kg		ND <sup>B</sup>	58000	
C9- C12 Aliphatics			N/A	ug/kg		228000 <sup>D</sup>	58000	
Surrogate Recoveries							Acceptance Ran	<u>ige</u>
FID:2,5-Dibromotolue	ene			%		223 <sup>E</sup>	70-130 %	
PID:2,5-Dibromotolue	ene			%		134 <sup>E</sup>	70-130 %	
FID:2,5-Dibromotolue	ene			%		248 <sup>E</sup>	70-130 %	
PID:2,5-Dibromotolue	ene			%		176 <sup>E</sup>	70-130 %	
<u>Footnotes</u>								
A Hydrocarbon Range data e			•					
B Hydrocarbon Range data e concentration of Target And	lytes eluting in that range.		•					
D Hydrocarbon Range data e conc of Target Analytes elu					. C9-C12	aliphatic Hydro	ocarbons exclude	
E Outside control limits due t	o matrix interference. Confi	rmed by reana	llysis.					
Z A 'J' qualifier indicates an e	stimated value							

-						

Were all QA/QC procedures REQUIRED by the VPH Method followed?	✓ Yes □	No- Details Attatched
Were all performance/acceptance standards for required QA/QC procedures achieved?	☐ Yes 🗹	No- Details Attatched
Were any significant modifications made to the VPH method, as specified in Sect. 11.3?	✓ No	Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature

**Postition** 

**Laboratory Director** 

**Printed Name Reza Tand**  Date

12/22/2010



IVIADEP VPH FORIVI								
Matrix	Aqueous	Soil <b>✓</b>	Sediment	☐ Other				
Containers	Satisfactory <b>✓</b>	Broken	Leaking					
<b>Aqueous Preservatives</b>	N/A ✓	pH <= 2	pH > 2					
Temperature	Received on Ice	Receive	ed at 4 Deg. C	Other	Rec'd at 1.9	3 deg C.		
Methanol	Methanol Covering			+/- 25%)				
Method for Ranges:	MADEP VPH REV 1.1	Client ID: H	A102_4-8'	Lab II	D: M96289-2			
Method for Target Analytes:	MADEP VPH REV 1.1	Date Collected: 12	2/2/2010	Date Receive	<b>d:</b> 12/2/2010			
VPH Surrogate Standards		Date Extracted:	First Da	ate Run:	Last Date	Run:		
PID: 2,5-Dibromotoluene	Э	N/A	12/8/	/2010	N/A			
FID: 2,5-Dibromotoluene	Э	% Solids:	Low D	ilution:	High Dilution:			
		81.7	,	1	N/A			
Unadjusted Ranges	CAS:	<u> Elution Range</u>	<u>Units</u>	<u>Result</u>	<u>RDL</u>	<u>Q</u>		
C5- C8 Aliphatics (Unadj.)		N/A	ug/kg	ND <sup>A</sup>	7900			
C9- C10 Aromatics (Unadj	.)	N/A	ug/kg	84500 <sup>A</sup>	7900			
C9- C12 Aliphatics (Unadj.	)	N/A	ug/kg	167000 <sup>A</sup>	7900			
Adjusted Ranges								
C5- C8 Aliphatics		N/A	ug/kg	ND <sup>B</sup>	7900			
C9- C12 Aliphatics		N/A	ug/kg	81800 <sup>D</sup>	7900			
Surrogate Recoveries					Acceptance Rang	ge		
FID:2,5-Dibromotoluene			%	129	70-130 %			
PID:2,5-Dibromotoluene			%	130	70-130 %			
Footnotes								
_ =	concentrations of any surrogate(							
B Hydrocarbon Range data exclude concentration of Target Analytes 6		s) and/or internal standards	s eluting in that range.	C5-C8 Aliphatic Hydroc	arbons exclude the			
	concentrations of any surrogate(			C9-C12 aliphatic Hydroc	arbons exclude			
Z A 'J' qualifier indicates an estimate	ed value							

Were all QA/QC procedures REQUIRED by the VPH Method followed?	✓ Yes	No- Details Attatched
Were all performance/acceptance standards for required QA/QC procedures achieved?	✓ Yes	No- Details Attatched
Were any significant modifications made to the VPH method, as specified in Sect. 11.3?	✓ No	Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

**Postition Laboratory Director** Signature

12/22/2010 Date **Printed Name Reza Tand** 

> 59 of 130 ACCUTEST M96289

#### **MADEP VPH FORM**

WADEF VEHI LOKW									
Matrix	Aqueous	Soil <b>✓</b>	Sediment [	Other					
Containers	Satisfactory <b>✓</b>	Broken	Leaking						
<b>Aqueous Preservatives</b>	N/A ✓	pH <= 2 □	pH > 2						
Temperature	Received on Ice	Received	d at 4 Deg. C	Other •	Rec'd at 1.9 deg	ς C.			
Methanol	Methanol Covering	g Soil. (mL Methar	nol/g soil: 1:1 +	·/- 25%)					
Method for Ranges:	MADEP VPH REV 1.1	Client ID: HA	_		M96289-3				
Method for Target Analytes:	MADEP VPH REV 1.1	Date Collected: 12/	2/2010	Date Received:	12/2/2010				
VPH Surrogate Standards		Date Extracted:	First Date	e Run:	Last Date Run	1:			
PID: 2,5-Dibromotoluen	е	N/A	12/8/2	010	N/A				
FID: 2,5-Dibromotoluen	е	% Solids:	Low Dil	ution:	High Dilution:	:			
		89	1		N/A				
Unadjusted Ranges	CAS	# Elution Range	<u>Units</u>	Result	RDL G	<u>2</u>			
C5- C8 Aliphatics (Unadj.)		N/A	ug/kg	ND <sup>A</sup>	6500				
C9- C10 Aromatics (Unadj	i.)	N/A	ug/kg	ND <sup>A</sup>	6500				
C9- C12 Aliphatics (Unadj.	.)	N/A	ug/kg	ND <sup>A</sup>	6500				
Adjusted Ranges									
C5- C8 Aliphatics		N/A	ug/kg	ND <sup>B</sup>	6500				
C9- C12 Aliphatics		N/A	ug/kg	ND <sup>□</sup>	6500				
Surrogate Recoveries				<u>A</u>	cceptance Range				
FID:2,5-Dibromotoluene			%	120	70-130 %				
PID:2,5-Dibromotoluene			%	113	70-130 %				
Footnotes									
A Hydrocarbon Range data exclude B Hydrocarbon Range data exclude concentration of Target Analytes	concentrations of any surrogate			5-C8 Aliphatic Hydrocar	bons exclude the				
D Hydrocarbon Range data exclude conc of Target Analytes eluting in				9-C12 aliphatic Hydrocar	bons exclude				
Z A 'J' qualifier indicates an estimat	ed value								

Were all QA/QC procedures REQUIRED by the VPH Method followed?	✓ Yes	No- Details Attatched
Were all performance/acceptance standards for required QA/QC procedures achieved?	✓ Yes	No- Details Attatched
Were any significant modifications made to the VPH method, as specified in Sect. 11.3?	✓ No	Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature Postition <u>Laboratory Director</u>

Printed Name Reza Tand Date 12/22/2010



	<u>IVI</u>	ADER VER I	<u> </u>			
Matrix	Aqueous	Soil <b>✓</b>	Sediment	Other		
Containers	Satisfactory <b>✓</b>	Broken 🗌	Leaking			
Aqueous Preservatives	N/A ✓	pH <= 2	pH > 2			
Temperature	Received on Ice	Received	l at 4 Deg. C	Other	✓ Rec'd at 1.9	deg C.
Methanol	Methanol Covering	Soil. (mL Methan	ol/g soil: 1:1 -	⊦/- 25%)		
Method for Ranges:	MADEP VPH REV 1.1	Client ID: HA	101_4-8'	Lab ID	: M96289-4	
Method for Target Analytes:	MADEP VPH REV 1.1	Date Collected: 12/2	2/2010	Date Received	i: 12/2/2010	
VPH Surrogate Standards		Date Extracted:	First Dat	e Run:	Last Date	Run:
PID: 2,5-Dibromotoluene	Э	N/A	12/8/2	2010	N/A	
FID: 2,5-Dibromotoluene	Э	% Solids:	Low Dil	ution:	High Dilution:	
		90.5	1		N/A	
Unadjusted Ranges	CAS #	Elution Range	Units	Result	RDL	Q
	OAO n		<u>omis</u>			<u>~</u>
C5- C8 Aliphatics (Unadj.)		N/A	ug/kg	ND <sup>A</sup>	6300	
C9- C10 Aromatics (Unadj	.)	N/A	ug/kg	ND <sup>A</sup>	6300	
C9- C12 Aliphatics (Unadj.	)	N/A	ug/kg	ND <sup>A</sup>	6300	
Adjusted Ranges						
C5- C8 Aliphatics		N/A	ug/kg	ND <sup>B</sup>	6300	
C9- C12 Aliphatics		N/A	ug/kg	ND D	6300	
Surrogate Recoveries				<u>!</u>	Acceptance Rang	<u>je</u>
FID:2,5-Dibromotoluene			%	113	70-130 %	
PID:2,5-Dibromotoluene			%	109	70-130 %	
<u>Footnotes</u>						
_	concentrations of any surrogate(s					
B Hydrocarbon Range data exclude concentration of Target Analytes 6	concentrations of any surrogate(seluting in that range.	s) and/or internal standards e	luting in that range. C	5-C8 Aliphatic Hydroca	irbons exclude the	
	concentrations of any surrogate(s			9-C12 aliphatic Hydroca	arbons exclude	
Z A 'J' qualifier indicates an estimate	ed value					

✓ Yes 🗌 Were all QA/QC procedures REQUIRED by the VPH Method followed? No- Details Attatched ✓ Yes 🗌 Were all performance/acceptance standards for required QA/QC procedures achieved? No- Details Attatched Were any significant modifications made to the VPH method, as specified in Sect. 11.3? ✓ No □ Yes- Details Attatched

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Signature /

**Postition** 

**Laboratory Director** 

**Printed Name** 

**Reza Tand** 

12/22/2010 Date



# **Internal Sample Tracking Chronicle**

Haley & Aldrich

Job No: M96289

Former Energy International Parcel, MA Project No: 06318-502

Sample Number	Method	Analyzed	Ву	Prepped	Ву	Test Codes
M96289-1 HA102_0-4		08:50 By: MD	Receiv	ved: 02-DEC	-10 By	: ЈВ
M96289-1	ASTM D1498-76M	03-DEC-10	MC			ЕН
M96289-1	SM21 2540 B MOD.	03-DEC-10	HS			% SOL
M96289-1	SW846 CHAP7	03-DEC-10	MA			CORR
M96289-1	SW846 6010C	06-DEC-10 20:45	DA	06-DEC-10	EM	AG, AS, BA, BE, CD, CR, NI, PB, SI SE, TL, V, ZN
M96289-1	SW846 CHAP7	08-DEC-10	BF	08-DEC-10	BF	CREAC, SREAC
M96289-1	SW846 CHAP7	08-DEC-10	BF	08-DEC-10	BF	CREAC, SREAC
M96289-1	SW846 1020	08-DEC-10	BF			IGN
M96289-1	MADEP VPH REV 1.1	1 08-DEC-10 03:42	WS			VMAVPHR
M96289-1	SW846 7471A	08-DEC-10 13:27	PY	07-DEC-10	EM	HG
M96289-1	MADEP VPH REV 1.1	1 08-DEC-10 14:24	WS			VMAVPHR
M96289-1	SW846 8260B	09-DEC-10 22:34	GK			V8260MCP
M96289-1	SW846 8270C	13-DEC-10 21:28	PR	06-DEC-10	MEW	AB8270MCP
M96289-1	MADEP EPH REV 1.1	15-DEC-10 19:59	JD	10-DEC-10	AF	BMAEPHR
M96289-2 HA102_4-8	Collected: 02-DEC-10	09:30 By: MD	Receiv	ved: 02-DEC	-10 By	: JB
M96289-2	ASTM D1498-76M	03-DEC-10	MC			ЕН
M96289-2	SM21 2540 B MOD.	03-DEC-10 03-DEC-10	HS			%SOL
M96289-2		03-DEC-10	MA			CORR
	SW846 6010C	06-DEC-10 20:49	DA	06-DEC-10	EM	AG,AS,BA,BE,CD,CR,NI,PB,S
M96289-2	SW846 6010C	07-DEC-10 14:17	DA	06-DEC-10	EM	TL,V,ZN SB
	SW846 CHAP7	08-DEC-10 14.17	BF	08-DEC-10		CREAC, SREAC
M96289-2 M96289-2	SW846 CHAP7	08-DEC-10 08-DEC-10	BF	08-DEC-10 08-DEC-10		CREAC, SREAC
M96289-2	SW846 1020	08-DEC-10 08-DEC-10	BF	00-DEC-10	DI	IGN
M96289-2	MADEP VPH REV 1.1		WS			VMAVPHR
M96289-2		08-DEC-10 04:21	PY	07-DEC-10	EM	HG
	SW846 8260B	09-DEC-10 16:42	GK	07-DEC-10	17141	V8260MCP
M96289-2		13-DEC-10 21:57	PR	06-DEC-10	MEW	AB8270MCP
M96289-2	MADEP EPH REV 1.1		JD	10-DEC-10		BMAEPHR
M96289-2		16-DEC-10 05:55	PR			AB8270MCP
M96289-3 HA101_0-4	Collected: 02-DEC-10	12:00 By: MD	Receiv	ved: 02-DEC	-10 By	: ЈВ



# **Internal Sample Tracking Chronicle**

Haley & Aldrich

Job No: M96289

Former Energy International Parcel, MA Project No: 06318-502

Sample Number	Method	Analyzed	Ву	Prepped	Ву	Test Codes
M96289-3	ASTM D1498-76M	03-DEC-10	MC			ЕН
M96289-3	SM21 2540 B MOD.	03-DEC-10	HS			% SOL
M96289-3	SW846 CHAP7	03-DEC-10	MA			CORR
M96289-3	SW846 6010C	06-DEC-10 20:54	DA	06-DEC-10	EM	AG, AS, BA, BE, CD, CR, NI, PB, S. SE, TL, V, ZN
M96289-3	SW846 CHAP7	08-DEC-10	BF	08-DEC-10	BF	CREAC, SREAC
M96289-3	SW846 1020	08-DEC-10	BF			IGN
M96289-3	SW846 CHAP7	08-DEC-10	BF	08-DEC-10	BF	CREAC, SREAC
M96289-3	MADEP VPH REV 1.1		WS			VMAVPHR
M96289-3	SW846 7471A	08-DEC-10 14:14	PY	07-DEC-10	EM	HG
	SW846 8260B	09-DEC-10 16:15	GK			V8260MCP
	MADEP EPH REV 1.1		JD	10-DEC-10	AF	BMAEPHR
M96289-3		13-DEC-10 22:26	PR			AB8270MCP
M96289-4 HA101_4-8		12:50 By: MD	Receiv	ved: 02-DEC-	-10 By	: ЈВ
M96289-4	ASTM D1498-76M	03-DEC-10	MC			ЕН
M96289-4		03-DEC-10	HS			% SOL
M96289-4		03-DEC-10	MA			CORR
M96289-4	SW846 6010C	06-DEC-10 20:15	DA	06-DEC-10	EM	AG, AS, BA, BE, CD, CR, NI, SB, S TL, V, ZN
M96289-4	SW846 6010C	07-DEC-10 14:22	DA	06-DEC-10	EM	PB
M96289-4		08-DEC-10	BF	08-DEC-10		CREAC,SREAC
M96289-4		08-DEC-10	BF	08-DEC-10		CREAC,SREAC
	SW846 1020	08-DEC-10	BF	00 220 10		IGN
	MADEP VPH REV 1.1		WS			VMAVPHR
M96289-4		08-DEC-10 13:51		07-DEC-10	EM	HG
	SW846 8260B	09-DEC-10 22:07		or BEC 10	2111	V8260MCP
	SW846 8270C	13-DEC-10 22:55	PR	06-DFC-10	MEW	AB8270MCP
	MADEP EPH REV 1.1		JD	10-DEC-10		BMAEPHR
M96289-2A HA102_4-8	Collected: 02-DEC-10 (	09:30 By: MD	Receiv	ved: 02-DEC-	-10 By	: JB
M96289-2A	SW846 6010C	10-DEC-10 00:39	DA	09-DEC-10	EM	EPB
M96289-3 <i>A</i> HA101_0-4	Collected: 02-DEC-10	12:00 By: MD	Receiv	ved: 02-DEC-	-10 By	: JB



# **Internal Sample Tracking Chronicle**

Haley & Aldrich

Job No: M96289

Former Energy International Parcel, MA Project No: 06318-502

Sample Number	Method	Analyzed	Ву	Prepped	Ву	<b>Test Codes</b>
M96289-3A	SW846 6010C	10-DEC-10 00:43	DA	09-DEC-10	EM	EPB
M96289-4A HA101_4-8	Collected: 02-DEC-10	12:50 By: MD	Receiv	ed: 02-DEC-	-10 By:	: JB
M96289-4A	SW846 6010C	09-DEC-10 23:31	DA	09-DEC-10	EM	EPB



### GC/MS Volatiles

### QC Data Summaries

### Includes the following where applicable:

- · Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries

### **Method Blank Summary**

Job Number: M96289

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSR666-MB	R18672A.D	1	12/09/10	GK	n/a	n/a	MSR666

The QC reported here applies to the following samples:

CAS No.	Compound	Result	RL	Units Q
67-64-1	Acetone	ND	250	ug/kg
71-43-2	Benzene	ND	25	ug/kg
108-86-1	Bromobenzene	ND	250	ug/kg
74-97-5	Bromochloromethane	ND	250	ug/kg
75-27-4	Bromodichloromethane	ND	100	ug/kg
75-25-2	Bromoform	ND	100	ug/kg
74-83-9	Bromomethane	ND	100	ug/kg
78-93-3	2-Butanone (MEK)	ND	250	ug/kg
104-51-8	n-Butylbenzene	ND	250	ug/kg
135-98-8	sec-Butylbenzene	ND	250	ug/kg
98-06-6	tert-Butylbenzene	ND	250	ug/kg
75-15-0	Carbon disulfide	ND	250	ug/kg
56-23-5	Carbon tetrachloride	ND	100	ug/kg
108-90-7	Chlorobenzene	ND	100	ug/kg
75-00-3	Chloroethane	ND	250	ug/kg
67-66-3	Chloroform	ND	100	ug/kg
74-87-3	Chloromethane	ND	250	ug/kg
95-49-8	o-Chlorotoluene	ND	250	ug/kg
106-43-4	p-Chlorotoluene	ND	250	ug/kg
108-20-3	Di-Isopropyl ether	ND	100	ug/kg
96-12-8	1,2-Dibromo-3-chloropropane	ND	250	ug/kg
124-48-1	Dibromochloromethane	ND	100	ug/kg
106-93-4	1,2-Dibromoethane	ND	100	ug/kg
95-50-1	1,2-Dichlorobenzene	ND	100	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	100	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	100	ug/kg
75-71-8	Dichlorodifluoromethane	ND	100	ug/kg
75-34-3	1,1-Dichloroethane	ND	100	ug/kg
107-06-2	1,2-Dichloroethane	ND	100	ug/kg
75-35-4	1,1-Dichloroethene	ND	100	ug/kg
156-59-2	cis-1,2-Dichloroethene	ND	100	ug/kg
156-60-5	trans-1,2-Dichloroethene	ND	100	ug/kg
78-87-5	1,2-Dichloropropane	ND	100	ug/kg
142-28-9	1,3-Dichloropropane	ND	250	ug/kg
594-20-7	2,2-Dichloropropane	ND	250	ug/kg
563-58-6	1,1-Dichloropropene	ND	250	ug/kg

# **Method Blank Summary**

Job Number: M96289

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSR666-MB	R18672A.D	1	12/09/10	GK	n/a	n/a	MSR666

The QC reported here applies to the following samples:

CAS No.	Compound	Result	RL	Units Q
10061-01-5	cis-1,3-Dichloropropene	ND	100	ug/kg
	trans-1,3-Dichloropropene	ND	100	ug/kg
123-91-1	1,4-Dioxane	ND	1300	ug/kg
60-29-7	Ethyl Ether	ND	250	ug/kg
100-41-4	Ethylbenzene	ND	100	ug/kg
87-68-3	Hexachlorobutadiene	ND	250	ug/kg
591-78-6	2-Hexanone	ND	250	ug/kg
98-82-8	Isopropylbenzene	ND	250	ug/kg
99-87-6	p-Isopropyltoluene	ND	250	ug/kg
1634-04-4	Methyl Tert Butyl Ether	ND	100	ug/kg
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	250	ug/kg
74-95-3	Methylene bromide	ND	250	ug/kg
75-09-2	Methylene chloride	ND	100	ug/kg
91-20-3	Naphthalene	ND	250	ug/kg
103-65-1	n-Propylbenzene	ND	250	ug/kg
100-42-5	Styrene	ND	250	ug/kg
994-05-8	tert-Amyl Methyl Ether	ND	250	ug/kg
637-92-3	tert-Butyl Ethyl Ether	ND	100	ug/kg
630-20-6	1,1,1,2-Tetrachloroethane	ND	250	ug/kg
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	ug/kg
127-18-4	Tetrachloroethene	ND	100	ug/kg
109-99-9	Tetrahydrofuran	ND	500	ug/kg
108-88-3	Toluene	ND	250	ug/kg
87-61-6	1,2,3-Trichlorobenzene	ND	250	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	250	ug/kg
71-55-6	1,1,1-Trichloroethane	ND	100	ug/kg
79-00-5	1,1,2-Trichloroethane	ND	100	ug/kg
79-01-6	Trichloroethene	ND	100	ug/kg
75-69-4	Trichlorofluoromethane	ND	100	ug/kg
96-18-4	1,2,3-Trichloropropane	ND	250	ug/kg
95-63-6	1,2,4-Trimethylbenzene	ND	250	ug/kg
108-67-8	1,3,5-Trimethylbenzene	ND	250	ug/kg
75-01-4	Vinyl chloride	ND	100	ug/kg
	m,p-Xylene	ND	100	ug/kg
95-47-6	o-Xylene	ND	100	ug/kg
1330-20-7	Xylene (total)	ND	100	ug/kg

# **Method Blank Summary**

Job Number: M96289

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample MSR666-MB	<b>File ID</b> R18672A.D	<b>DF</b> 1	<b>Analyzed</b> 12/09/10	By GK	<b>Prep Date</b> n/a	<b>Prep Batch</b> n/a	Analytical Batch MSR666

The QC reported here applies to the following samples:

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	104%	70-130%
2037-26-5	Toluene-D8	107%	70-130%
460-00-4	4-Bromofluorobenzene	105%	70-130%

# Blank Spike/Blank Spike Duplicate Summary

Job Number: M96289

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSR666-BS	R18669A.D	1	12/09/10	GK	n/a	n/a	MSR666
MSR666-BSD	R18670A.D	1	12/09/10	GK	n/a	n/a	MSR666

The QC reported here applies to the following samples:

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	2500	2860	114	2810	112	2	70-130/25
71-43-2	Benzene	2500	2770	111	2660	106	4	70-130/25
108-86-1	Bromobenzene	2500	2970	119	2880	115	3	70-130/25
74-97-5	Bromochloromethane	2500	2840	114	2860	114	1	70-130/25
75-27-4	Bromodichloromethane	2500	2860	114	2810	112	2	70-130/25
75-25-2	Bromoform	2500	2860	114	2830	113	1	70-130/25
74-83-9	Bromomethane	2500	2480	99	2430	97	2	70-130/25
78-93-3	2-Butanone (MEK)	2500	2930	117	2800	112	5	70-130/25
104-51-8	n-Butylbenzene	2500	2840	114	2700	108	5	70-130/25
135-98-8	sec-Butylbenzene	2500	2950	118	2810	112	5	70-130/25
98-06-6	tert-Butylbenzene	2500	2920	117	2820	113	3	70-130/25
75-15-0	Carbon disulfide	2500	2860	114	2740	110	4	70-130/25
56-23-5	Carbon tetrachloride	2500	3010	120	2870	115	5	70-130/25
108-90-7	Chlorobenzene	2500	3080	123	2980	119	3	70-130/25
75-00-3	Chloroethane	2500	2480	99	2390	96	4	70-130/25
67-66-3	Chloroform	2500	2700	108	2610	104	3	70-130/25
74-87-3	Chloromethane	2500	2140	86	2110	84	1	70-130/25
95-49-8	o-Chlorotoluene	2500	2820	113	2720	109	4	70-130/25
106-43-4	p-Chlorotoluene	2500	2840	114	2760	110	3	70-130/25
108-20-3	Di-Isopropyl ether	2500	2360	94	2320	93	2	70-130/25
96-12-8	1,2-Dibromo-3-chloropropane	2500	2680	107	2700	108	1	70-130/25
124-48-1	Dibromochloromethane	2500	3200	128	3160	126	1	70-130/25
106-93-4	1,2-Dibromoethane	2500	3020	121	2940	118	3	70-130/25
95-50-1	1,2-Dichlorobenzene	2500	2930	117	2860	114	2	70-130/25
541-73-1	1,3-Dichlorobenzene	2500	2950	118	2860	114	3	70-130/25
106-46-7	1,4-Dichlorobenzene	2500	2900	116	2830	113	2	70-130/25
75-71-8	Dichlorodifluoromethane	2500	2550	102	2380	95	7	70-130/25
75-34-3	1,1-Dichloroethane	2500	2610	104	2560	102	2	70-130/25
107-06-2	1,2-Dichloroethane	2500	2750	110	2710	108	1	70-130/25
75-35-4	1,1-Dichloroethene	2500	2840	114	2750	110	3	70-130/25
156-59-2	cis-1,2-Dichloroethene	2500	2640	106	2570	103	3	70-130/25
156-60-5	trans-1,2-Dichloroethene	2500	2770	111	2710	108	2	70-130/25
78-87-5	1,2-Dichloropropane	2500	2630	105	2550	102	3	70-130/25
142-28-9	1,3-Dichloropropane	2500	2840	114	2790	112	2	70-130/25
594-20-7	2,2-Dichloropropane	2500	2840	114	2730	109	4	70-130/25
563-58-6	1,1-Dichloropropene	2500	2870	115	2790	112	3	70-130/25

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**Method:** SW846 8260B

# Blank Spike/Blank Spike Duplicate Summary

Job Number: M96289

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	Ву	Prep Date	Prep Batch	Analytical Batch
MSR666-BS	R18669A.D	1	12/09/10	GK	n/a	n/a	MSR666
MSR666-BSD	R18670A.D	1	12/09/10	GK	n/a	n/a	MSR666

The QC reported here applies to the following samples:

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	2500	2910	116	2880	115	1	70-130/25
	trans-1,3-Dichloropropene	2500	3180	127	3100	124	3	70-130/25
123-91-1	1,4-Dioxane	12500	13300	106	13100	105	2	70-130/25
60-29-7	Ethyl Ether	2500	2610	104	2560	102	2	70-130/25
100-41-4	Ethylbenzene	2500	2970	119	2860	114	4	70-130/25
87-68-3	Hexachlorobutadiene	2500	3160	126	3030	121	4	70-130/25
591-78-6	2-Hexanone	2500	2420	97	2460	98	2	70-130/25
98-82-8	Isopropylbenzene	2500	3390	136* a	3260	130	4	70-130/25
99-87-6	p-Isopropyltoluene	2500	2960	118	2840	114	4	70-130/25
1634-04-4	Methyl Tert Butyl Ether	2500	2590	104	2560	102	1	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	2500	2250	90	2260	90	0	70-130/25
74-95-3	Methylene bromide	2500	2840	114	2780	111	2	70-130/25
75-09-2	Methylene chloride	2500	2700	108	2670	107	1	70-130/25
91-20-3	Naphthalene	2500	2790	112	2760	110	1	70-130/25
103-65-1	n-Propylbenzene	2500	2860	114	2760	110	4	70-130/25
100-42-5	Styrene	2500	3180	127	3090	124	3	70-130/25
994-05-8	tert-Amyl Methyl Ether	2500	2690	108	2630	105	2	70-130/25
637-92-3	tert-Butyl Ethyl Ether	2500	2570	103	2540	102	1	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	2500	3130	125	3050	122	3	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	2500	2740	110	2680	107	2	70-130/25
127-18-4	Tetrachloroethene	2500	3270	131* a	3130	125	4	70-130/25
109-99-9	Tetrahydrofuran	2500	2220	89	2270	91	2	70-130/25
108-88-3	Toluene	2500	2830	113	2740	110	3	70-130/25
87-61-6	1,2,3-Trichlorobenzene	2500	2860	114	2810	112	2	70-130/25
120-82-1	1,2,4-Trichlorobenzene	2500	3020	121	2950	118	2	70-130/25
71-55-6	1,1,1-Trichloroethane	2500	2880	115	2770	111	4	70-130/25
79-00-5	1,1,2-Trichloroethane	2500	2720	109	2650	106	3	70-130/25
79-01-6	Trichloroethene	2500	2830	113	2710	108	4	70-130/25
75-69-4	Trichlorofluoromethane	2500	2840	114	2710	108	5	70-130/25
96-18-4	1,2,3-Trichloropropane	2500	2740	110	2710	108	1	70-130/25
95-63-6	1,2,4-Trimethylbenzene	2500	2930	117	2830	113	3	70-130/25
108-67-8	1,3,5-Trimethylbenzene	2500	2950	118	2840	114	4	70-130/25
75-01-4	Vinyl chloride	2500	2460	98	2210	88	11	70-130/25
	m,p-Xylene	5000	6060	121	5850	117	4	70-130/25
95-47-6	o-Xylene	2500	3010	120	2900	116	4	70-130/25
1330-20-7	Xylene (total)	7500	9070	121	8760	117	3	70-130/25

# 5.2.1

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**Method:** SW846 8260B

### Blank Spike/Blank Spike Duplicate Summary

Job Number: M96289

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample MSR666-BS MSR666-BSD	<b>File ID</b> R18669A.D R18670A.D	Analyzed 12/09/10 12/09/10	By GK GK	Prep Date n/a n/a	Prep Batch n/a n/a	Analytical Batch MSR666 MSR666

#### The QC reported here applies to the following samples:

M96289-1, M96289-2, M96289-3, M96289-4

CAS No.	<b>Surrogate Recoveries</b>	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	108%	106%	70-130%
2037-26-5	Toluene-D8	111%	107%	70-130%
460-00-4	4-Bromofluorobenzene	111%	108%	70-130%

(a) Outside control limits. Blank Spike meets program technical requirements.



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**Method:** SW846 8260B

### Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96289

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	<b>Analytical Batch</b>
M96257-6MS	R18688.D	1	12/09/10	GK	n/a	n/a	MSR666
M96257-6MSD	R18689.D	1	12/09/10	GK	n/a	n/a	MSR666
M96257-6	R18682.D	1	12/09/10	GK	n/a	n/a	MSR666

The QC reported here applies to the following samples:

CAS No.	Compound	M96257 ug/kg	7-6 Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		3590	2920	81	2920	81	0	70-130/30
71-43-2	Benzene	35.1		3590	4020	111	3940	109	2	70-130/30
108-86-1	Bromobenzene	ND		3590	4300	120	4340	121	1	70-130/30
74-97-5	Bromochloromethane	ND		3590	4070	113	4090	114	0	70-130/30
75-27-4	Bromodichloromethane	ND		3590	4120	115	4080	114	1	70-130/30
75-25-2	Bromoform	ND		3590	4230	118	4190	117	1	70-130/30
74-83-9	Bromomethane	ND		3590	3670	102	3590	100	2	70-130/30
78-93-3	2-Butanone (MEK)	ND		3590	3230	90	3170	88	2	70-130/30
104-51-8	n-Butylbenzene	ND		3590	4060	113	3990	111	2	70-130/30
135-98-8	sec-Butylbenzene	ND		3590	4190	117	4140	115	1	70-130/30
98-06-6	tert-Butylbenzene	ND		3590	4190	117	4180	116	0	70-130/30
75-15-0	Carbon disulfide	23.6		3590	4050	112	3950	109	3	70-130/30
56-23-5	Carbon tetrachloride	ND		3590	4380	122	4200	117	4	70-130/30
108-90-7	Chlorobenzene	ND		3590	4500	125	4400	122	2	70-130/30
75-00-3	Chloroethane	ND		3590	3530	98	3490	97	1	70-130/30
67-66-3	Chloroform	ND		3590	3810	106	3760	105	1	70-130/30
74-87-3	Chloromethane	ND		3590	2990	83	2920	81	2	70-130/30
95-49-8	o-Chlorotoluene	ND		3590	4060	113	4010	112	1	70-130/30
106-43-4	p-Chlorotoluene	ND		3590	4090	114	4080	114	0	70-130/30
108-20-3	Di-Isopropyl ether	ND		3590	3300	92	3320	92	1	70-130/30
96-12-8	1,2-Dibromo-3-chloropropane	ND		3590	3790	105	4010	112	6	70-130/30
124-48-1	Dibromochloromethane	ND		3590	4710	131* a	4740	132* a	1	70-130/30
106-93-4	1,2-Dibromoethane	ND		3590	4400	122	4400	122	0	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		3590	4230	118	4260	119	1	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		3590	4220	117	4250	118	1	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		3590	4160	116	4170	116	0	70-130/30
75-71-8	Dichlorodifluoromethane	ND		3590	3480	97	3370	94	3	70-130/30
75-34-3	1,1-Dichloroethane	ND		3590	3730	104	3660	102	2	70-130/30
107-06-2	1,2-Dichloroethane	ND		3590	3890	108	3900	109	0	70-130/30
75-35-4	1,1-Dichloroethene	ND		3590	4090	114	3950	110	3	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		3590	3800	106	3760	105	1	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		3590	3930	109	3910	109	1	70-130/30
78-87-5	1,2-Dichloropropane	ND		3590	3860	107	3790	105	2	70-130/30
142-28-9	1,3-Dichloropropane			3590	4060	113	4110	114	1	70-130/30
594-20-7	2,2-Dichloropropane	ND		3590	3750	104	3600	100	4	70-130/30
563-58-6	1,1-Dichloropropene	ND		3590	4230	118	4030	112	5	70-130/30

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**Method:** SW846 8260B

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96289

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	Ву	Prep Date	Prep Batch	Analytical Batch
M96257-6MS	R18688.D	1	12/09/10	GK	n/a	n/a	MSR666
M96257-6MSD	R18689.D	1	12/09/10	GK	n/a	n/a	MSR666
M96257-6	R18682.D	1	12/09/10	GK	n/a	n/a	MSR666

The QC reported here applies to the following samples:

CAS No.	Compound	M96257 ug/kg	'-6 Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
10061 01 5	ois 1.2 Dichlerence	ND		2500	4100	116		114	2	70 120/20
	cis-1,3-Dichloropropene			3590	4180	116	4090	114 125	2	70-130/30
	trans-1,3-Dichloropropene	ND		3590	4500	125	4480		0	70-130/30
123-91-1	1,4-Dioxane	ND		18000	20200	112	18000	100	12	70-130/30
60-29-7	Ethyl Ether	ND		3590	3580	100	3580	100	0	70-130/30
100-41-4	Ethylbenzene	21.8		3590	4350	120	4250	118	2	70-130/30
87-68-3	Hexachlorobutadiene	ND		3590	4700	131* a	4730	132* <sup>a</sup> 69* <sup>a</sup>	1	70-130/30
591-78-6	2-Hexanone	ND		3590	2480	69* a	2470		0	70-130/30
98-82-8	Isopropylbenzene	ND		3590	4930	137* a	4900	136* a	1	70-130/30
99-87-6	p-Isopropyltoluene	35.8		3590	4260	118	4230	117	1	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		3590	3670	102	3700	103	1	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)			3590	3220	90	3110	87	3	70-130/30
74-95-3	Methylene bromide	ND		3590	4060	113	4060	113	0	70-130/30
75-09-2	Methylene chloride	ND		3590	3860	107	3830	107	1	70-130/30
91-20-3	Naphthalene	2570		3590	7530	138* a	6900	120	9	70-130/30
103-65-1	n-Propylbenzene	ND		3590	4120	115	4060	113	1	70-130/30
100-42-5	Styrene	ND		3590	4710	131* a	4620	129	2	70-130/30
994-05-8	tert-Amyl Methyl Ether	ND		3590	3860	107	3880	108	1	70-130/30
637-92-3	tert-Butyl Ethyl Ether	ND		3590	3660	102	3640	101	1	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		3590	4620	129	4480	125	3	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		3590	3750	104	3780	105	1	70-130/30
127-18-4	Tetrachloroethene	ND		3590	4830	134* a	4640	129	4	70-130/30
109-99-9	Tetrahydrofuran	ND		3590	3210	89	3200	89	0	70-130/30
108-88-3	Toluene	47.1		3590	4140	114	4060	112	2	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		3590	4000	111	4030	112	1	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		3590	4240	118	4320	120	2	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		3590	4090	114	4020	112	2	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		3590	3950	110	3910	109	1	70-130/30
79-01-6	Trichloroethene	ND		3590	4260	119	4260	119	0	70-130/30
75-69-4	Trichlorofluoromethane	ND		3590	4030	112	3880	108	4	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		3590	3850	107	3910	109	2	70-130/30
95-63-6	1,2,4-Trimethylbenzene	34.7		3590	4260	118	4220	116	1	70-130/30
108-67-8	1,3,5-Trimethylbenzene	26.5		3590	4270	118	4240	117	1	70-130/30
75-01-4	Vinyl chloride	ND		3590	3890	108	3880	108	0	70-130/30
	m,p-Xylene	67.2		7190	8870	122	8660	120	2	70-130/30
95-47-6	o-Xylene	23.6		3590	4440	123	4310	119	3	70-130/30
1330-20-7	Xylene (total)	90.8		10800	13300	123	13000	120	2	70-130/30

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**Method:** SW846 8260B

### Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96289

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
M96257-6MS	R18688.D	1	12/09/10	GK	n/a	n/a	MSR666
M96257-6MSD	R18689.D	1	12/09/10	GK	n/a	n/a	MSR666
M96257-6	R18682.D	1	12/09/10	GK	n/a	n/a	MSR666

#### The QC reported here applies to the following samples:

M96289-1, M96289-2, M96289-3, M96289-4

CAS No.	<b>Surrogate Recoveries</b>	MS	MSD	M96257-6	Limits
1868-53-7	Dibromofluoromethane	109%	106%	107%	70-130%
2037-26-5	Toluene-D8	113%	111%	111%	70-130%
460-00-4	4-Bromofluorobenzene	112%	112%	113%	70-130%

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.

#### **Volatile Internal Standard Area Summary**

Job Number: M96289

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

 Check Std:
 MSR665-CC637
 Injection Date:
 12/09/10

 Lab File ID:
 R18668.D
 Injection Time:
 11:44

**Instrument ID:** GCMSR **Method:** SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std Upper Limit <sup>a</sup> Lower Limit <sup>b</sup>	311163 622326 155582	9.11 9.61 8.61	429211 858422 214606	9.98 10.48 9.48	204434 408868 102217	13.25 13.75 12.75	260910 521820 130455	15.81 16.31 15.31	79157 158314 39579	6.69 7.19 6.19
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSR666-BS MSR665-BS MSR666-BSD MSR666-BSD MSR666-MB MSR665-MB ZZZZZZ ZZZZZZ ZZZZZZ ZZZZZZ ZZZZZZ M96289-3 M96289-2 ZZZZZZ M96257-6 ZZZZZZ M96317-5 M96317-5MS M96257-6MS M96257-6MS	315184 315184 319323 319323 307128 307128 299938 293863 303627 290099 297028 301704 309940 316033 318260 310642 304881 309127 316116 311208 325926	9.11 9.11 9.11 9.11 9.11 9.11 9.11 9.11	431067 431067 441479 441479 413264 413264 405104 399680 406971 389305 398516 405483 417236 427239 430043 420167 415218 416148 431809 426019 440035	9.98 9.98 9.99 9.99 9.99 9.99 9.99 9.99	205285 205285 209655 209655 185930 185930 183268 183439 184327 178006 187487 188417 196701 198244 197346 192625 190791 188424 204450 204778 207574	13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25 13.25	258619 258619 263268 263268 247941 247941 249802 238853 238597 237344 249683 246534 257739 260755 260403 259135 258708 258708 258001 263631 265133 265105	15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81 15.81		6.69 6.69 6.69 6.69 6.69 6.69 6.68 6.71 6.69 6.68 6.69 6.68 6.69 6.68 6.68 6.68
M96257-6MSD M96289-4 M96289-1 ZZZZZZ	323236 312582 309797 41180°	9.11 9.11 9.11 9.12	439036 420400 418159 40799°	9.99 9.99 9.99 10.00	208017 192613 194534 22587°	13.25 13.25 13.25 13.27	260498 254339 255252 13505°	15.81 15.81 15.81 15.82	74927 77765	6.69 6.69 6.69 6.67

IS 1 = Pentafluorobenzene IS 2 = 1,4-Difluorobenzene IS 3 = Chlorobenzene-D5 IS 4 = 1,4-Dichlorobenzene-d4 IS 5 = Tert Butyl Alcohol-D9

- (a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
- (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
- (c) Outside control limits due to possible matrix interference. Confirmed by reanalysis.



#### **Volatile Internal Standard Area Summary**

Job Number: M96289

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

 Check Std:
 MSR666-CC638
 Injection Date:
 12/09/10

 Lab File ID:
 R18668A.D
 Injection Time:
 11:44

**Instrument ID:** GCMSR **Method:** SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	311163	9.11	429211	9.98	204434	13.25	260910	15.81	79157	6.69
Upper Limit <sup>a</sup>	622326	9.61	858422	10.48	408868		521820	16.31		7.19
Lower Limit b	155582	8.61	214606	9.48	102217	12.75	130455	15.31	39579	6.19
Lab	IS 1		IS 2		IS 3		IS 4		IS 5	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
MSR666-BS	315184	9.11	431067	9.98	205285	13.25	258619	15.81	79429	6.69
MSR665-BS	315184	9.11	431067	9.98	205285	13.25	258619	15.81	79429	6.69
MSR666-BSD	319323	9.11	441479	9.99	209655	13.25	263268	15.81	82194	6.69
MSR665-BSD	319323	9.11	441479	9.99	209655	13.25	263268	15.81	82194	6.69
MSR666-MB	307128	9.11	413264	9.99	185930	13.25	247941	15.81	78601	6.69
MSR665-MB	307128	9.11	413264	9.99	185930	13.25	247941	15.81	78601	6.69
ZZZZZZ	299938	9.11	405104	9.99	183268	13.25	249802	15.81	73855	6.69
ZZZZZZ	293863	9.11	399680	9.99	183439	13.25	238853	15.81	76082	6.68
ZZZZZZ	303627	9.11	406971	9.98	184327	13.25	238597	15.81	75530	6.71
ZZZZZZ	290099	9.11	389305	9.99	178006	13.25	237344	15.81	75194	6.69
ZZZZZZ	297028	9.11	398516	9.99	187487	13.25	249683	15.81	72311	6.69
M96289-3	301704	9.11	405483	9.98	188417	13.25	246534	15.81	72904	6.68
M96289-2	309940	9.11	417236	9.99	196701	13.25	257739	15.81	74090	6.69
ZZZZZZ	316033	9.11	427239	9.99	198244	13.25	260755	15.81	72868	6.68
M96257-6	318260	9.11	430043	9.99	197346	13.25	260403	15.81	80595	6.69
ZZZZZZ	310642	9.12	420167	9.99	192625	13.25	259135	15.81	75360	6.68
ZZZZZZ	304881	9.12	415218	9.99	190791	13.25	258708	15.81		6.68
M96317-5	309127	9.12	416148	9.99	188424	13.25	258001	15.81	74300	6.68
M96317-5MS	316116	9.11	431809	9.99	204450	13.25	263631	15.81	76750	6.68
M96317-5MSD	311208	9.11	426019	9.98	204778	13.25	265133	15.81	78923	6.67
M96257-6MS	325926	9.11	440035	9.98	207574	13.24	265105	15.81	84862	6.69
M96257-6MSD	323236	9.11	439036	9.99	208017	13.25	260498	15.81	82257	6.69
M96289-4	312582	9.11	420400	9.99	192613	13.25	254339	15.81	74927	6.69
M96289-1	309797	9.11	418159	9.99	194534	13.25	255252	15.81	77765	6.69
ZZZZZZ	41180 <sup>c</sup>	9.12	40799 <sup>c</sup>	10.00	22587 <sup>c</sup>	13.27	13505 <sup>c</sup>	15.82	918 <sup>c</sup>	6.67

IS 1 = Pentafluorobenzene IS 2 = 1,4-Difluorobenzene IS 3 = Chlorobenzene-D5 IS 4 = 1,4-Dichlorobenzene-d4 IS 5 = Tert Butyl Alcohol-D9

- (a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
- (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
- (c) Outside control limits due to possible matrix interference. Confirmed by reanalysis.



### **Volatile Surrogate Recovery Summary**

Job Number: M96289

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Method: SW846 8260B Matrix: SO

#### Samples and QC shown here apply to the above method

Lab	Lab			
Sample ID	File ID	<b>S1</b>	<b>S2</b>	S3
M96289-1	R18692.D	109.0	114.0	115.0
M96289-2	R18679.D	105.0	108.0	109.0
M96289-3	R18678.D	110.0	115.0	115.0
M96289-4	R18691.D	106.0	114.0	114.0
M96257-6MS	R18688.D	109.0	113.0	112.0
M96257-6MSD	R18689.D	106.0	111.0	112.0
MSR666-BS	R18669A.D	108.0	111.0	111.0
MSR666-BSD	R18670A.D	106.0	107.0	108.0
MSR666-MB	R18672A.D	104.0	107.0	105.0

Surrogate Recovery Compounds Limits

 $\mathbf{S1} = \text{Dibromofluoromethane}$  70-130%  $\mathbf{S2} = \text{Toluene-D8}$  70-130%  $\mathbf{S3} = 4\text{-Bromofluorobenzene}$  70-130%





### GC/MS Semi-volatiles

QC Data Summaries

### Includes the following where applicable:

- · Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries

**Method:** SW846 8270C

### **Method Blank Summary**

Job Number: M96289

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample OP23538-MB	<b>File ID</b> S19958.D	<b>DF</b> 1	<b>Analyzed</b> 12/13/10	<b>By</b> PR	<b>Prep Date</b> 12/06/10	Prep Batch OP23538	Analytical Batch MSS826

#### The QC reported here applies to the following samples:

CAS No.	Compound	Result	RL	Units Q
65-85-0	Benzoic acid	ND	480	ug/kg
95-57-8	2-Chlorophenol	ND	240	ug/kg
59-50-7	4-Chloro-3-methyl phenol	ND	480	ug/kg
120-83-2	2,4-Dichlorophenol	ND	480	ug/kg
105-67-9	2,4-Dimethylphenol	ND	480	ug/kg
51-28-5	2,4-Dinitrophenol	ND	960	ug/kg
95-48-7	2-Methylphenol	ND	480	ug/kg
	3&4-Methylphenol	ND	480	ug/kg
88-75-5	2-Nitrophenol	ND	480	ug/kg
100-02-7	4-Nitrophenol	ND	960	ug/kg
87-86-5	Pentachlorophenol	ND	480	ug/kg
108-95-2	Phenol	ND	240	ug/kg
95-95-4	2,4,5-Trichlorophenol	ND	480	ug/kg
88-06-2	2,4,6-Trichlorophenol	ND	480	ug/kg
83-32-9	Acenaphthene	ND	240	ug/kg
208-96-8	Acenaphthylene	ND	240	ug/kg
98-86-2	Acetophenone	ND	480	ug/kg
62-53-3	Aniline	ND	480	ug/kg
120-12-7	Anthracene	ND	240	ug/kg
56-55-3	Benzo(a)anthracene	ND	240	ug/kg
50-32-8	Benzo(a)pyrene	ND	240	ug/kg
205-99-2	Benzo(b)fluoranthene	ND	240	ug/kg
191-24-2	Benzo(g,h,i)perylene	ND	240	ug/kg
207-08-9	Benzo(k)fluoranthene	ND	240	ug/kg
101-55-3	4-Bromophenyl phenyl ether	ND	240	ug/kg
85-68-7	Butyl benzyl phthalate	13.7	240	ug/kg J
91-58-7	2-Chloronaphthalene	ND	240	ug/kg
106-47-8	4-Chloroaniline	ND	480	ug/kg
218-01-9	Chrysene	ND	240	ug/kg
111-91-1	bis(2-Chloroethoxy)methane	ND	240	ug/kg
111-44-4	bis(2-Chloroethyl)ether	ND	240	ug/kg
108-60-1	bis(2-Chloroisopropyl)ether	ND	240	ug/kg
95-50-1	1,2-Dichlorobenzene	ND	240	ug/kg
122-66-7	1,2-Diphenylhydrazine	ND	240	ug/kg
541-73-1	1,3-Dichlorobenzene	ND	240	ug/kg
106-46-7	1,4-Dichlorobenzene	ND	240	ug/kg



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**Method:** SW846 8270C

### **Method Blank Summary**

Job Number: M96289

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample OP23538-MB	<b>File ID</b> S19958.D	<b>DF</b> 1	<b>Analyzed</b> 12/13/10	<b>By</b> PR	<b>Prep Date</b> 12/06/10	Prep Batch OP23538	Analytical Batch MSS826

#### The QC reported here applies to the following samples:

CAS No.	Compound	Result	RL	Units Q
121-14-2	2,4-Dinitrotoluene	ND	480	ug/kg
606-20-2	2,6-Dinitrotoluene	ND	480	ug/kg
91-94-1	3,3'-Dichlorobenzidine	ND	240	ug/kg
53-70-3	Dibenzo(a,h)anthracene	ND	240	ug/kg
132-64-9	Dibenzofuran	ND	240	ug/kg
84-74-2	Di-n-butyl phthalate	ND	240	ug/kg
117-84-0	Di-n-octyl phthalate	ND	240	ug/kg
84-66-2	Diethyl phthalate	ND	240	ug/kg
131-11-3	Dimethyl phthalate	ND	240	ug/kg
117-81-7	bis(2-Ethylhexyl)phthalate	101	240	ug/kg J
206-44-0	Fluoranthene	ND	240	ug/kg
86-73-7	Fluorene	ND	240	ug/kg
118-74-1	Hexachlorobenzene	ND	240	ug/kg
87-68-3	Hexachlorobutadiene	ND	240	ug/kg
77-47-4	Hexachlorocyclopentadiene	ND	480	ug/kg
67-72-1	Hexachloroethane	ND	240	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	ND	240	ug/kg
78-59-1	Isophorone	ND	240	ug/kg
91-57-6	2-Methylnaphthalene	ND	240	ug/kg
91-20-3	Naphthalene	ND	240	ug/kg
98-95-3	Nitrobenzene	ND	240	ug/kg
621-64-7	N-Nitroso-di-n-propylamine	ND	240	ug/kg
86-30-6	N-Nitrosodiphenylamine	ND	240	ug/kg
85-01-8	Phenanthrene	ND	240	ug/kg
129-00-0	Pyrene	ND	240	ug/kg
120-82-1	1,2,4-Trichlorobenzene	ND	240	ug/kg

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	81%	30-130%
4165-62-2	Phenol-d5	78%	30-130%
118-79-6	2,4,6-Tribromophenol	93%	30-130%
4165-60-0	Nitrobenzene-d5	79%	30-130%
321-60-8	2-Fluorobiphenyl	91%	30-130%
1718-51-0	Terphenyl-d14	106%	30-130%



**Method:** SW846 8270C

### Blank Spike/Blank Spike Duplicate Summary

Job Number: M96289

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	<b>Analytical Batch</b>
OP23538-BS	S19959.D	1	12/13/10	PR	12/06/10	OP23538	MSS826
OP23538-BSD	S19960.D	1	12/13/10	PR	12/06/10	OP23538	MSS826

The QC reported here applies to the following samples:

September   Sept	CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
95-57-8         2-Chlorophenol         4870         3700         76         3600         73         3         30-130/30           59-50-7         4-Chloro-3-methyl phenol         4870         3860         79         3880         79         1         30-130/30           120-83-2         2,4-Dichlorophenol         4870         3580         73         3560         73         1         30-130/30           105-67-9         2,4-Dimitrophenol         4870         3370         69         2990         61         12         30-130/30           51-28-5         2,4-Dimitrophenol         4870         3570         73         3520         72         1         30-130/30           95-48-7         2-Methylphenol         9750         98         9340         95         2         30-130/30           88-75-5         2-Nitrophenol         4870         3370         69         3370         69         0         30-130/30           100-02-7         4-Nitrophenol         4870         3270         67         3160         64         3         30-130/30           108-95-2         Phenol         4870         3270         67         3660         75         1         30-130/30	65-85-0	Benzoic acid	4870	3100	64	3140	64	1	30-130/30
Section									
120-83-2   2,4-Dichlorophenol   4870   4170   86   4200   86   1   30-130/30   105-67-9   2,4-Dimethylphenol   4870   3580   73   3560   73   1   30-130/30   51-28-5   2,4-Dimitrophenol   4870   3570   73   3520   72   1   30-130/30   3&4-Methylphenol   9750   9550   98   9340   95   2   30-130/30   3&4-Methylphenol   4870   3570   73   3520   72   1   30-130/30   38-75-5   2-Nitrophenol   4870   3370   69   3370   69   29   0   30-130/30   100-02-7   4-Nitrophenol   4870   3370   69   3370   69   0   30-130/30   108-95-2   Phenol   4870   3270   67   3160   64   3   30-130/30   108-95-2   Phenol   4870   3700   76   3660   75   1   30-130/30   108-95-2   Phenol   4870   3700   76   3660   75   1   30-130/30   38-32-9   Acenaphthene   2440   2020   83   2010   82   0   40-140/30   208-96-8   Acenaphthylene   2440   2020   83   2010   82   0   40-140/30   208-96-8   Acenaphthylene   2440   1500   62   1490   61   1   40-140/30   208-96-3   Aniline   2440   2350   144* a   3440   140   2   40-140/30   56-55-3   Benzo(a)anthracene   2440   2070   85   2070   84   0   40-140/30   56-55-3   Benzo(a)anthracene   2440   2070   85   2050   84   1   40-140/30   205-99-2   Benzo(b)fluoranthene   2440   2040   84   2080   85   2   40-140/30   205-99-2   Benzo(b)fluoranthene   2440   2040   84   2080   85   2   40-140/30   207-98-9   Benzo(b)fluoranthene   2440   2060   85   2050   84   1   40-140/30   207-98-9   Benzo(b)fluoranthene   2440   2060   85   2090   85   1   40-140/30   218-01-9   Chrysene   2440   2050   84   2050   85   1   40-140/30   218-01-9   Chrysene   2440   2050   84   2050   85   1   40-140/30   218-01-9   Chrysene   2440   2450   260   95   220   40-140/30   218-01-9   Chrysene   2440   2450   260   95   220   40-140/30   218-01-9   Chrysene   2440   2450   250   84   2050   84   0   40-140/30   218-01-9   Chrysene   2440   2450   250   84   2050   84   0   40-140/30   218-01-9   Chrysene   2440   2450   250   85   2500   86   40-140/30   218-01-9   Chrysene   2440   2450   250   36   250   40-140/		*							
105-67-9									
51-28-5         2,4-Dinitrophenol         4870         3370         69         2990         61         12         30-130/30           95-48-7         2-Methylphenol         4870         3570         73         3520         72         1         30-130/30           3&4-Methylphenol         9750         9550         98         9340         95         2         30-130/30           88-75-5         2-Nitrophenol         4870         4010         82         4050         82         1         30-130/30           100-02-7         4-Nitrophenol         4870         3370         69         3370         69         0         30-130/30           87-86-5         Pentachlorophenol         4870         3270         67         3160         64         3         30-130/30           108-95-2         Phenol         4870         3700         76         3660         75         1         30-130/30           88-06-2         2,4,6-Trichlorophenol         4870         4360         89         4360         89         0         30-130/30           88-06-2         2,4,6-Trichlorophenol         4870         4360         89         4360         89         0         30-130/30				3580				1	
95-48-7								12	
3&4-Methylphenol         9750         9550         98         9340         95         2         30-130/30           88-75-5         2-Nitrophenol         4870         4010         82         4050         82         1         30-130/30           100-02-7         4-Nitrophenol         4870         3370         69         3370         69         0         30-130/30           87-86-5         Pentachlorophenol         4870         3700         67         3160         64         3         30-130/30           108-95-2         Phenol         4870         3700         76         3660         75         1         30-130/30           95-95-4         2,4,5-Trichlorophenol         4870         4140         85         4230         86         2         30-130/30           88-06-2         2,4,6-Trichlorophenol         4870         4360         89         4360         89         0         30-130/30           88-06-2         2,4,6-Trichlorophenol         2440         2020         83         2010         82         0         40-140/30           208-96-8         Acenaphthylene         2440         2020         83         2010         82         0         40-140/30 <td>95-48-7</td> <td></td> <td>4870</td> <td></td> <td></td> <td>3520</td> <td>72</td> <td>1</td> <td>30-130/30</td>	95-48-7		4870			3520	72	1	30-130/30
88-75-5         2-Nitrophenol         4870         4010         82         4050         82         1         30-130/30           100-02-7         4-Nitrophenol         4870         3370         69         3370         69         0         30-130/30           87-86-5         Pentachlorophenol         4870         3270         67         3160         64         3         30-130/30           95-95-4         2,4,5-Trichlorophenol         4870         4360         89         4360         89         0         30-130/30           88-06-2         2,4,6-Trichlorophenol         4870         4360         89         4360         89         0         30-130/30           88-06-2         2,4,6-Trichlorophenol         4870         4360         89         4360         89         0         30-130/30           88-62-8         Acenaphthylene         2440         1500         62         1490         61         1         40-140/30           98-86-2         Acetophenone         2440         1380         57         1350         55         2         40-140/30           120-12-7         Anthracene         2440         2070         85         2070         84         0 <td< td=""><td></td><td></td><td>9750</td><td>9550</td><td>98</td><td>9340</td><td>95</td><td>2</td><td>30-130/30</td></td<>			9750	9550	98	9340	95	2	30-130/30
87-86-5         Pentachlorophenol         4870         3270         67         3160         64         3         30-130/30           108-95-2         Phenol         4870         3700         76         3660         75         1         30-130/30           95-95-4         2,4,5-Trichlorophenol         4870         4360         89         4360         89         0         30-130/30           88-06-2         2,4,6-Trichlorophenol         4870         4360         89         4360         89         0         30-130/30           28-96-8         Acenaphthylene         2440         2020         83         2010         82         0         40-140/30           98-86-2         Acetophenone         2440         1500         62         1490         61         1         40-140/30           62-53-3         Aniline         2440         1380         57         1350         55         2         40-140/30           120-12-7         Antracene         2440         2070         85         2070         84         0         40-140/30           50-32-8         Benzo(a)pyrene         2440         2070         85         2050         84         1         40-140/30     <	88-75-5	• •	4870	4010	82	4050	82	1	30-130/30
87-86-5         Pentachlorophenol         4870         3270         67         3160         64         3         30-130/30           108-95-2         Phenol         4870         3700         76         3660         75         1         30-130/30           95-95-4         2,4,5-Trichlorophenol         4870         4360         89         4360         89         0         30-130/30           88-06-2         2,4,6-Trichlorophenol         4870         4360         89         4360         89         0         30-130/30           28-96-8         Acenaphthylene         2440         2020         83         2010         82         0         40-140/30           98-86-2         Acetophenone         2440         1500         62         1490         61         1         40-140/30           62-53-3         Aniline         2440         1380         57         1350         55         2         40-140/30           120-12-7         Antracene         2440         2070         85         2070         84         0         40-140/30           50-32-8         Benzo(a)pyrene         2440         2070         85         2050         84         1         40-140/30     <	100-02-7	4-Nitrophenol	4870	3370	69	3370	69	0	30-130/30
95-95-4         2,4,5-Trichlorophenol         4870         4140         85         4230         86         2         30-130/30           88-06-2         2,4,6-Trichlorophenol         4870         4360         89         4360         89         0         30-130/30           83-32-9         Acenaphthene         2440         2020         83         2010         82         0         40-140/30           208-96-8         Acenaphthylene         2440         1500         62         1490         61         1         40-140/30           98-86-2         Acetophenone         2440         3520         144** a         3440         140         2         40-140/30           62-53-3         Aniline         2440         1380         57         1350         55         2         40-140/30           120-12-7         Anthracene         2440         2070         85         2070         84         0         40-140/30           56-55-3         Benzo(a)nthracene         2440         2070         85         2050         84         1         40-140/30           205-99-2         Benzo(b)fluoranthene         2440         2070         85         2050         84         1	87-86-5		4870	3270	67	3160	64	3	30-130/30
88-06-2         2,4,6-Trichlorophenol         4870         4360         89         4360         89         0         30-130/30           83-32-9         Acenaphthene         2440         2020         83         2010         82         0         40-140/30           208-96-8         Acenaphthylene         2440         1500         62         1490         61         1         40-140/30           98-86-2         Acetophenone         2440         3520         144* a         3440         140         2         40-140/30           62-53-3         Aniline         2440         2070         85         2070         84         0         40-140/30           56-55-3         Benzo(a)anthracene         2440         2210         91         2260         92         2         40-140/30           50-32-8         Benzo(b)fluoranthene         2440         2070         85         2050         84         1         40-140/30           205-99-2         Benzo(b)fluoranthene         2440         2050         84         2070         84         1         40-140/30           207-08-9         Benzo(k)fluoranthene         2440         2040         84         2080         85         2	108-95-2	Phenol	4870	3700	76	3660	75	1	30-130/30
83-32-9 Acenaphthene 2440 2020 83 2010 82 0 40-140/30 208-96-8 Acenaphthylene 2440 1500 62 1490 61 1 40-140/30 98-86-2 Acetophenone 2440 3520 144* a 3440 140 2 40-140/30 62-53-3 Aniline 2440 1380 57 1350 55 2 40-140/30 120-12-7 Anthracene 2440 2070 85 2070 84 0 40-140/30 56-55-3 Benzo(a)anthracene 2440 2210 91 2260 92 2 40-140/30 50-32-8 Benzo(a)pyrene 2440 2070 85 2050 84 1 40-140/30 205-99-2 Benzo(b)fluoranthene 2440 2050 84 2070 84 1 40-140/30 191-24-2 Benzo(g,h,i)perylene 2440 2040 84 2080 85 2 40-140/30 207-08-9 Benzo(k)fluoranthene 2440 2300 94 2240 91 3 40-140/30 101-55-3 4-Bromophenyl phenyl ether 2440 2180 89 2170 88 0 40-140/30 85-68-7 Butyl benzyl phthalate 2440 2050 84 2090 85 1 40-140/30 106-47-8 4-Chloroanhthene 2440 2250 84 2050 84 0 40-140/30 111-91-1 bis(2-Chlorotehoxy)methane 2440 1530 63 1530 62 0 40-140/30 111-94-4 bis(2-Chlorotehoxy)methane 2440 1840 76 1860 76 1 40-140/30 111-44-4 bis(2-Chlorotehoxy)methane 2440 1820 75 1760 72 3 40-140/30 108-60-1 bis(2-Chlorotehoxy)methane 2440 1820 75 1760 72 3 40-140/30 112-66-7 1,2-Dichlorobenzene 2440 1830 75 1820 74 1 40-140/30 112-66-7 1,2-Diphenylhydrazine 2440 1830 75 1820 74 1 40-140/30 112-66-7 1,2-Diphenylhydrazine 2440 1790 73 1750 71 2 40-140/30 1541-73-1 1,3-Dichlorobenzene 2440 1790 73 1750 71 2 40-140/30	95-95-4	2,4,5-Trichlorophenol	4870	4140	85	4230	86	2	30-130/30
208-96-8         Acenaphthylene         2440         1500         62         1490         61         1         40-140/30           98-86-2         Acetophenone         2440         3520         144* a         3440         140         2         40-140/30           62-53-3         Aniline         2440         1380         57         1350         55         2         40-140/30           120-12-7         Anthracene         2440         2070         85         2070         84         0         40-140/30           56-55-3         Benzo(a)anthracene         2440         2210         91         2260         92         2         40-140/30           50-32-8         Benzo(a)pyrene         2440         2070         85         2050         84         1         40-140/30           205-99-2         Benzo(g,h,i)perylene         2440         2050         84         2070         84         1         40-140/30           191-24-2         Benzo(g,h,i)perylene         2440         2040         84         2080         85         2         40-140/30           207-08-9         Benzo(k)fluoranthene         2440         2300         94         2240         91         3 <t< td=""><td>88-06-2</td><td>2,4,6-Trichlorophenol</td><td>4870</td><td>4360</td><td>89</td><td>4360</td><td>89</td><td>0</td><td>30-130/30</td></t<>	88-06-2	2,4,6-Trichlorophenol	4870	4360	89	4360	89	0	30-130/30
98-86-2         Acetophenone         2440         3520         144* a         3440         140         2         40-140/30           62-53-3         Aniline         2440         1380         57         1350         55         2         40-140/30           120-12-7         Anthracene         2440         2070         85         2070         84         0         40-140/30           56-55-3         Benzo(a)nthracene         2440         2210         91         2260         92         2         40-140/30           50-32-8         Benzo(b)fluoranthene         2440         2070         85         2050         84         1         40-140/30           205-99-2         Benzo(g,h,i)perylene         2440         2050         84         2070         84         1         40-140/30           207-08-9         Benzo(k)fluoranthene         2440         2300         94         2240         91         3         40-140/30           85-68-7         Butyl benzyl phthalate         2440         2180         89         2170         88         0         40-140/30           91-58-7         2-Chloroaphthalene         2440         2050         84         2050         84         0	83-32-9	Acenaphthene	2440	2020	83	2010	82	0	40-140/30
62-53-3 Aniline 2440 1380 57 1350 55 2 40-140/30 120-12-7 Anthracene 2440 2070 85 2070 84 0 40-140/30 56-55-3 Benzo(a)anthracene 2440 2210 91 2260 92 2 40-140/30 50-32-8 Benzo(b)fluoranthene 2440 2050 84 1 40-140/30 205-99-2 Benzo(b)fluoranthene 2440 2050 84 2070 84 1 40-140/30 191-24-2 Benzo(g,h,i)perylene 2440 2040 84 2080 85 2 40-140/30 207-08-9 Benzo(k)fluoranthene 2440 2300 94 2240 91 3 40-140/30 101-55-3 4-Bromophenyl phenyl ether 2440 2180 89 2170 88 0 40-140/30 85-68-7 Butyl benzyl phthalate 2440 2060 85 2090 85 1 40-140/30 106-47-8 4-Chloroaniline 2440 2050 84 2050 84 0 40-140/30 106-47-8 4-Chloroaniline 2440 1530 63 1530 62 0 40-140/30 111-91-1 bis(2-Chloroethoxy)methane 2440 1840 76 1860 76 1 40-140/30 111-44-4 bis(2-Chloroethoxy)methane 2440 1840 76 1860 76 1 40-140/30 108-60-1 bis(2-Chlorobenzene 2440 1820 75 1760 72 3 40-140/30 122-66-7 1,2-Diphenylhydrazine 2440 1830 75 1820 74 1 40-140/30 541-73-1 1,3-Dichlorobenzene 2440 1790 73 1750 71 2 40-140/30	208-96-8	Acenaphthylene	2440	1500	62	1490	61	1	40-140/30
120-12-7         Anthracene         2440         2070         85         2070         84         0         40-140/30           56-55-3         Benzo(a)anthracene         2440         2210         91         2260         92         2         40-140/30           50-32-8         Benzo(a)pyrene         2440         2070         85         2050         84         1         40-140/30           205-99-2         Benzo(b)fluoranthene         2440         2050         84         2070         84         1         40-140/30           191-24-2         Benzo(k)fluoranthene         2440         2040         84         2080         85         2         40-140/30           207-08-9         Benzo(k)fluoranthene         2440         2300         94         2240         91         3         40-140/30           101-55-3         4-Bromophenyl phenyl ether         2440         2180         89         2170         88         0         40-140/30           85-68-7         Butyl benzyl phthalate         2440         2060         85         2090         85         1         40-140/30           91-58-7         2-Chloroaphthalene         2440         2050         84         2050         84	98-86-2	Acetophenone	2440	3520	144* a	3440	140	2	40-140/30
56-55-3         Benzo(a)anthracene         2440         2210         91         2260         92         2         40-140/30           50-32-8         Benzo(a)pyrene         2440         2070         85         2050         84         1         40-140/30           205-99-2         Benzo(b)fluoranthene         2440         2050         84         2070         84         1         40-140/30           191-24-2         Benzo(k)fluoranthene         2440         2040         84         2080         85         2         40-140/30           207-08-9         Benzo(k)fluoranthene         2440         2300         94         2240         91         3         40-140/30           101-55-3         4-Bromophenyl phenyl ether         2440         2180         89         2170         88         0         40-140/30           85-68-7         Butyl benzyl phthalate         2440         2060         85         2090         85         1         40-140/30           91-58-7         2-Chloronaphthalene         2440         2050         84         2050         84         0         40-140/30           116-47-8         4-Chloroaniline         2440         1530         63         1530         62<	62-53-3	Aniline	2440	1380	57	1350	55	2	40-140/30
50-32-8         Benzo(a)pyrene         2440         2070         85         2050         84         1         40-140/30           205-99-2         Benzo(b)fluoranthene         2440         2050         84         2070         84         1         40-140/30           191-24-2         Benzo(g,h,i)perylene         2440         2040         84         2080         85         2         40-140/30           207-08-9         Benzo(k)fluoranthene         2440         2300         94         2240         91         3         40-140/30           101-55-3         4-Bromophenyl phenyl ether         2440         2180         89         2170         88         0         40-140/30           85-68-7         Butyl benzyl phthalate         2440         2060         85         2090         85         1         40-140/30           91-58-7         2-Chloronaphthalene         2440         2050         84         2050         84         0         40-140/30           106-47-8         4-Chloroaniline         2440         1530         63         1530         62         0         40-140/30           11-91-1         bis(2-Chloroethoxy)methane         2440         1840         76         1860	120-12-7	Anthracene	2440	2070	85	2070	84	0	40-140/30
205-99-2         Benzo(b)fluoranthene         2440         2050         84         2070         84         1         40-140/30           191-24-2         Benzo(g,h,i)perylene         2440         2040         84         2080         85         2         40-140/30           207-08-9         Benzo(k)fluoranthene         2440         2300         94         2240         91         3         40-140/30           101-55-3         4-Bromophenyl phenyl ether         2440         2180         89         2170         88         0         40-140/30           85-68-7         Butyl benzyl phthalate         2440         2060         85         2090         85         1         40-140/30           91-58-7         2-Chloroaphthalene         2440         2050         84         2050         84         0         40-140/30           106-47-8         4-Chloroaniline         2440         1530         63         1530         62         0         40-140/30           218-01-9         Chrysene         2440         1220         91         2210         90         0         40-140/30           111-91-1         bis(2-Chloroethoxy)methane         2440         1840         76         1860	56-55-3	Benzo(a)anthracene	2440	2210	91	2260	92	2	40-140/30
191-24-2         Benzo(g,h,i)perylene         2440         2040         84         2080         85         2         40-140/30           207-08-9         Benzo(k)fluoranthene         2440         2300         94         2240         91         3         40-140/30           101-55-3         4-Bromophenyl phenyl ether         2440         2180         89         2170         88         0         40-140/30           85-68-7         Butyl benzyl phthalate         2440         2060         85         2090         85         1         40-140/30           91-58-7         2-Chloroaphthalene         2440         2050         84         2050         84         0         40-140/30           106-47-8         4-Chloroaniline         2440         1530         63         1530         62         0         40-140/30           218-01-9         Chrysene         2440         2220         91         2210         90         0         40-140/30           111-91-1         bis(2-Chloroethoxy)methane         2440         1840         76         1860         76         1         40-140/30           116-60-1         bis(2-Chloroisopropyl)ether         2440         1690         69         1630	50-32-8	Benzo(a)pyrene	2440	2070	85	2050	84	1	40-140/30
207-08-9         Benzo(k)fluoranthene         2440         2300         94         2240         91         3         40-140/30           101-55-3         4-Bromophenyl phenyl ether         2440         2180         89         2170         88         0         40-140/30           85-68-7         Butyl benzyl phthalate         2440         2060         85         2090         85         1         40-140/30           91-58-7         2-Chloroaphthalene         2440         2050         84         2050         84         0         40-140/30           106-47-8         4-Chloroaniline         2440         1530         63         1530         62         0         40-140/30           218-01-9         Chrysene         2440         2220         91         2210         90         0         40-140/30           111-91-1         bis(2-Chloroethoxy)methane         2440         1840         76         1860         76         1         40-140/30           111-44-4         bis(2-Chloroisopropyl)ether         2440         1780         73         1680         68         6         40-140/30           95-50-1         1,2-Dichlorobenzene         2440         1820         75         1760	205-99-2	Benzo(b)fluoranthene	2440	2050	84	2070	84	1	40-140/30
101-55-3         4-Bromophenyl phenyl ether         2440         2180         89         2170         88         0         40-140/30           85-68-7         Butyl benzyl phthalate         2440         2060         85         2090         85         1         40-140/30           91-58-7         2-Chloronaphthalene         2440         2050         84         2050         84         0         40-140/30           106-47-8         4-Chloroaniline         2440         1530         63         1530         62         0         40-140/30           218-01-9         Chrysene         2440         2220         91         2210         90         0         40-140/30           111-91-1         bis(2-Chloroethoxy)methane         2440         1840         76         1860         76         1         40-140/30           111-44-4         bis(2-Chloroisopropyl)ether         2440         1780         73         1680         68         6         40-140/30           95-50-1         1,2-Dichlorobenzene         2440         1820         75         1760         72         3         40-140/30           122-66-7         1,2-Diphenylhydrazine         2440         1830         75         1820	191-24-2	Benzo(g,h,i)perylene	2440	2040	84	2080	85	2	40-140/30
85-68-7         Butyl benzyl phthalate         2440         2060         85         2090         85         1         40-140/30           91-58-7         2-Chloronaphthalene         2440         2050         84         2050         84         0         40-140/30           106-47-8         4-Chloroaniline         2440         1530         63         1530         62         0         40-140/30           218-01-9         Chrysene         2440         2220         91         2210         90         0         40-140/30           111-91-1         bis(2-Chloroethoxy)methane         2440         1840         76         1860         76         1         40-140/30           111-44-4         bis(2-Chloroethyl)ether         2440         1780         73         1680         68         6         40-140/30           108-60-1         bis(2-Chloroisopropyl)ether         2440         1690         69         1630         66         4         40-140/30           95-50-1         1,2-Dichlorobenzene         2440         1820         75         1760         72         3         40-140/30           122-66-7         1,2-Diphenylhydrazine         2440         1830         75         1820	207-08-9	Benzo(k)fluoranthene	2440	2300	94	2240	91	3	40-140/30
91-58-7         2-Chloronaphthalene         2440         2050         84         2050         84         0         40-140/30           106-47-8         4-Chloroaniline         2440         1530         63         1530         62         0         40-140/30           218-01-9         Chrysene         2440         2220         91         2210         90         0         40-140/30           111-91-1         bis(2-Chloroethoxy)methane         2440         1840         76         1860         76         1         40-140/30           111-44-4         bis(2-Chloroethyl)ether         2440         1780         73         1680         68         6         40-140/30           108-60-1         bis(2-Chloroisopropyl)ether         2440         1690         69         1630         66         4         40-140/30           95-50-1         1,2-Dichlorobenzene         2440         1820         75         1760         72         3         40-140/30           122-66-7         1,2-Diphenylhydrazine         2440         1830         75         1820         74         1         40-140/30           541-73-1         1,3-Dichlorobenzene         2440         1790         73         1750 <t< td=""><td>101-55-3</td><td>4-Bromophenyl phenyl ether</td><td>2440</td><td>2180</td><td>89</td><td>2170</td><td>88</td><td>0</td><td>40-140/30</td></t<>	101-55-3	4-Bromophenyl phenyl ether	2440	2180	89	2170	88	0	40-140/30
106-47-8         4-Chloroaniline         2440         1530         63         1530         62         0         40-140/30           218-01-9         Chrysene         2440         2220         91         2210         90         0         40-140/30           111-91-1         bis(2-Chloroethoxy)methane         2440         1840         76         1860         76         1         40-140/30           111-44-4         bis(2-Chloroethyl)ether         2440         1780         73         1680         68         6         40-140/30           108-60-1         bis(2-Chloroisopropyl)ether         2440         1690         69         1630         66         4         40-140/30           95-50-1         1,2-Dichlorobenzene         2440         1820         75         1760         72         3         40-140/30           122-66-7         1,2-Diphenylhydrazine         2440         1830         75         1820         74         1         40-140/30           541-73-1         1,3-Dichlorobenzene         2440         1790         73         1750         71         2         40-140/30	85-68-7		2440	2060	85	2090	85	1	40-140/30
218-01-9       Chrysene       2440       2220       91       2210       90       0       40-140/30         111-91-1       bis(2-Chloroethoxy)methane       2440       1840       76       1860       76       1       40-140/30         111-44-4       bis(2-Chloroethyl)ether       2440       1780       73       1680       68       6       40-140/30         108-60-1       bis(2-Chloroisopropyl)ether       2440       1690       69       1630       66       4       40-140/30         95-50-1       1,2-Dichlorobenzene       2440       1820       75       1760       72       3       40-140/30         122-66-7       1,2-Diphenylhydrazine       2440       1830       75       1820       74       1       40-140/30         541-73-1       1,3-Dichlorobenzene       2440       1790       73       1750       71       2       40-140/30	91-58-7		2440	2050	84	2050	84	0	40-140/30
111-91-1     bis(2-Chloroethoxy)methane     2440     1840     76     1860     76     1     40-140/30       111-44-4     bis(2-Chloroethyl)ether     2440     1780     73     1680     68     6     40-140/30       108-60-1     bis(2-Chloroisopropyl)ether     2440     1690     69     1630     66     4     40-140/30       95-50-1     1,2-Dichlorobenzene     2440     1820     75     1760     72     3     40-140/30       122-66-7     1,2-Diphenylhydrazine     2440     1830     75     1820     74     1     40-140/30       541-73-1     1,3-Dichlorobenzene     2440     1790     73     1750     71     2     40-140/30	106-47-8	4-Chloroaniline	2440	1530	63	1530	62	0	40-140/30
111-44-4     bis(2-Chloroethyl)ether     2440     1780     73     1680     68     6     40-140/30       108-60-1     bis(2-Chloroisopropyl)ether     2440     1690     69     1630     66     4     40-140/30       95-50-1     1,2-Dichlorobenzene     2440     1820     75     1760     72     3     40-140/30       122-66-7     1,2-Diphenylhydrazine     2440     1830     75     1820     74     1     40-140/30       541-73-1     1,3-Dichlorobenzene     2440     1790     73     1750     71     2     40-140/30	218-01-9	3	2440	2220		2210	90	0	40-140/30
108-60-1     bis(2-Chloroisopropyl)ether     2440     1690     69     1630     66     4     40-140/30       95-50-1     1,2-Dichlorobenzene     2440     1820     75     1760     72     3     40-140/30       122-66-7     1,2-Diphenylhydrazine     2440     1830     75     1820     74     1     40-140/30       541-73-1     1,3-Dichlorobenzene     2440     1790     73     1750     71     2     40-140/30	111-91-1		2440	1840		1860		1	40-140/30
95-50-1     1,2-Dichlorobenzene     2440     1820     75     1760     72     3     40-140/30       122-66-7     1,2-Diphenylhydrazine     2440     1830     75     1820     74     1     40-140/30       541-73-1     1,3-Dichlorobenzene     2440     1790     73     1750     71     2     40-140/30	111-44-4	bis(2-Chloroethyl)ether	2440	1780	73	1680	68	6	40-140/30
122-66-7 1,2-Diphenylhydrazine 2440 1830 75 1820 74 1 40-140/30 541-73-1 1,3-Dichlorobenzene 2440 1790 73 1750 71 2 40-140/30	108-60-1		2440	1690		1630	66		40-140/30
541-73-1 1,3-Dichlorobenzene 2440 1790 73 1750 71 2 40-140/30	95-50-1		2440			1760		3	40-140/30
	122-66-7		2440	1830		1820	74	1	40-140/30
106-46-7 1,4-Dichlorobenzene 2440 1760 72 1730 70 2 40-140/30	541-73-1	1,3-Dichlorobenzene	2440	1790		1750			40-140/30
	106-46-7	1,4-Dichlorobenzene	2440	1760	72	1730	70	2	40-140/30

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**Method:** SW846 8270C

### Blank Spike/Blank Spike Duplicate Summary

Job Number: M96289

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
OP23538-BS	S19959.D	1	12/13/10	PR	12/06/10	OP23538	MSS826
OP23538-BSD	S19960.D	1	12/13/10	PR	12/06/10	OP23538	MSS826
OP23538-BSD	\$19960.D	1	12/13/10	PK	12/06/10	OP23538	

The QC reported here applies to the following samples:

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
121-14-2	2,4-Dinitrotoluene	2440	2090	86	2080	85	0	40-140/30
606-20-2	2,6-Dinitrotoluene	2440	2050	84	2030	83	1	40-140/30
91-94-1	3,3'-Dichlorobenzidine	2440	1720	71	1740	71	1	40-140/30
53-70-3	Dibenzo(a,h)anthracene	2440	2140	88	2170	88	1	40-140/30
132-64-9	Dibenzofuran	2440	1950	80	1910	78	2	40-140/30
84-74-2	Di-n-butyl phthalate	2440	2030	83	2020	82	0	40-140/30
117-84-0	Di-n-octyl phthalate	2440	2310	95	2300	94	0	40-140/30
84-66-2	Diethyl phthalate	2440	2070	85	2030	83	2	40-140/30
131-11-3	Dimethyl phthalate	2440	2070	85	2060	84	0	40-140/30
117-81-7	bis(2-Ethylhexyl)phthalate	2440	2120	87	2110	86	0	40-140/30
206-44-0	Fluoranthene	2440	2050	84	2030	83	1	40-140/30
86-73-7	Fluorene	2440	2120	87	2090	85	1	40-140/30
118-74-1	Hexachlorobenzene	2440	2170	89	2150	88	1	40-140/30
87-68-3	Hexachlorobutadiene	2440	1940	80	1950	79	1	40-140/30
77-47-4	Hexachlorocyclopentadiene	2440	1190	49	1190	48	0	40-140/30
67-72-1	Hexachloroethane	2440	1690	69	1670	68	1	40-140/30
193-39-5	Indeno(1,2,3-cd)pyrene	2440	2190	90	2220	90	1	40-140/30
78-59-1	Isophorone	2440	1770	73	1770	72	0	40-140/30
91-57-6	2-Methylnaphthalene	2440	1900	78	1900	77	0	40-140/30
91-20-3	Naphthalene	2440	1920	79	1940	79	1	40-140/30
98-95-3	Nitrobenzene	2440	1740	71	1750	71	1	40-140/30
621-64-7	N-Nitroso-di-n-propylamine	2440	1830	75	1780	73	3	40-140/30
86-30-6	N-Nitrosodiphenylamine	2440	2130	87	2140	87	0	40-140/30
85-01-8	Phenanthrene	2440	1970	81	1950	79	1	40-140/30
129-00-0	Pyrene	2440	2170	89	2220	90	2	40-140/30
120-82-1	1,2,4-Trichlorobenzene	2440	1970	81	1960	80	1	40-140/30

Surrogate Recoveries	BSP	BSD	Limits
2-Fluorophenol Phenol-d5 2,4,6-Tribromophenol Nitrobenzene-d5 2-Fluorobiphenyl	74% 73% 90% 72% 85%	71% 69% 88% 72% 85%	30-130% 30-130% 30-130% 30-130% 30-130% 30-130%
	2-Fluorophenol Phenol-d5 2,4,6-Tribromophenol Nitrobenzene-d5	2-Fluorophenol 74% Phenol-d5 73% 2,4,6-Tribromophenol 90% Nitrobenzene-d5 72% 2-Fluorobiphenyl 85%	2-Fluorophenol 74% 71% Phenol-d5 73% 69% 2,4,6-Tribromophenol 90% 88% Nitrobenzene-d5 72% 72% 2-Fluorobiphenyl 85% 85%



# 6.2.1

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**Method:** SW846 8270C

### Blank Spike/Blank Spike Duplicate Summary

Job Number: M96289

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	Ву	Prep Date	Prep Batch	Analytical Batch
OP23538-BS	S19959.D	1	12/13/10	PR	12/06/10	OP23538	MSS826
OP23538-BSD	S19960.D	1	12/13/10	PR	12/06/10	OP23538	MSS826

The QC reported here applies to the following samples:

M96289-1, M96289-2, M96289-3, M96289-4

(a) Outside control limits. Associated samples are non-detect for this compound.

**Method:** SW846 8270C

### **Matrix Spike Summary**

Job Number: M96289

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

ile ID	DF	Analyzed	By	<b>Prep Date</b>	Prep Batch	<b>Analytical Batch</b>
19961.D	1	12/13/10	PR	12/06/10	OP23538	MSS826
19975.D	1	12/13/10	PR	12/06/10	OP23538	MSS826
1	9961.D	9961.D 1	9961.D 1 12/13/10	9961.D 1 12/13/10 PR	9961.D 1 12/13/10 PR 12/06/10	9961.D 1 12/13/10 PR 12/06/10 OP23538

The QC reported here applies to the following samples:

CAS No.	Compound	M96289-4 ug/kg (	2	Spike ug/kg	MS ug/kg	MS %	Limits
65-85-0	Benzoic acid	ND		5430	655	12* a	30-130
95-57-8	2-Chlorophenol	ND		5430	3510	65	30-130
59-50-7	4-Chloro-3-methyl phenol	ND		5430	3800	70	30-130
120-83-2	2,4-Dichlorophenol	ND		5430	3620	67	30-130
105-67-9	2,4-Dimethylphenol	ND		5430	3670	68	30-130
51-28-5	2,4-Dinitrophenol	ND		5430	ND	0* a	30-130
95-48-7	2-Methylphenol	52.1		5430	3670	67	30-130
	3&4-Methylphenol	262		10900	9910	89	30-130
88-75-5	2-Nitrophenol	ND		5430	3530	65	30-130
100-02-7	4-Nitrophenol	ND		5430	2460	45	30-130
87-86-5	Pentachlorophenol	ND		5430	978	18* a	30-130
108-95-2	Phenol	ND		5430	3690	68	30-130
95-95-4	2,4,5-Trichlorophenol	ND		5430	3230	59	30-130
88-06-2	2,4,6-Trichlorophenol	ND		5430	3410	63	30-130
83-32-9	Acenaphthene	537		2720	2980	90	40-140
208-96-8	Acenaphthylene	740		2720	2060	49	40-140
98-86-2	Acetophenone	25.3		2720	3730	136	40-140
62-53-3	Aniline	ND		2720	1090	40	40-140
120-12-7	Anthracene	2550		2720	5610	113	40-140
56-55-3	Benzo(a)anthracene	7540		2720	9820	84	40-140
50-32-8	Benzo(a)pyrene	5800		2720	7220	52	40-140
205-99-2	Benzo(b)fluoranthene	4340		2720	6150	67	40-140
191-24-2	Benzo(g,h,i)perylene	2700		2720	6040	123	40-140
207-08-9	Benzo(k)fluoranthene	4240		2720	5610	50	40-140
101-55-3	4-Bromophenyl phenyl ether	ND		2720	2160	80	40-140
85-68-7	Butyl benzyl phthalate	ND		2720	2220	82	40-140
91-58-7	2-Chloronaphthalene	ND		2720	2000	74	40-140
106-47-8	4-Chloroaniline	ND		2720	1550	57	40-140
218-01-9	Chrysene	6590		2720	8960	87	40-140
111-91-1	bis(2-Chloroethoxy)methane	ND		2720	1810	67	40-140
111-44-4	bis(2-Chloroethyl)ether	ND		2720	1880	69	40-140
108-60-1	bis(2-Chloroisopropyl)ether	ND		2720	1770	65	40-140
95-50-1	1,2-Dichlorobenzene	ND		2720	1850	68	40-140
122-66-7	1,2-Diphenylhydrazine	ND		2720	1810	67	40-140
541-73-1	1,3-Dichlorobenzene	ND		2720	1810	67	40-140
106-46-7	1,4-Dichlorobenzene	ND		2720	1780	66	40-140



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**Method:** SW846 8270C

### **Matrix Spike Summary**

Job Number: M96289

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample OP23538-MS	File ID S19961.D	<b>DF</b>	<b>Analyzed</b> 12/13/10	<b>By</b> PR	<b>Prep Date</b> 12/06/10	Prep Batch OP23538	Analytical Batch MSS826
M96289-4	S19975.D	1	12/13/10	PR	12/06/10	OP23538	MSS826

#### The QC reported here applies to the following samples:

		M96289-4		Spike	MS	MS	
CAS No.	Compound	ug/kg	Q	ug/kg	ug/kg	<b>%</b>	Limits
121-14-2	2,4-Dinitrotoluene	ND		2720	1920	71	40-140
606-20-2	2,6-Dinitrotoluene	ND		2720	1970	73	40-140
91-94-1	3,3'-Dichlorobenzidine	ND		2720	1740	64	40-140
53-70-3	Dibenzo(a,h)anthracene	1450		2720	4060	96	40-140
132-64-9	Dibenzofuran	571		2720	2850	84	40-140
84-74-2	Di-n-butyl phthalate	ND		2720	2060	76	40-140
117-84-0	Di-n-octyl phthalate	ND		2720	1950	72	40-140
84-66-2	Diethyl phthalate	ND		2720	2010	74	40-140
131-11-3	Dimethyl phthalate	ND		2720	1960	72	40-140
117-81-7	bis(2-Ethylhexyl)phthalate	76.7		2720	2340	83	40-140
206-44-0	Fluoranthene	10700		2720	13800	114	40-140
86-73-7	Fluorene	902		2720	3490	95	40-140
118-74-1	Hexachlorobenzene	ND		2720	2120	78	40-140
87-68-3	Hexachlorobutadiene	ND		2720	1990	73	40-140
77-47-4	Hexachlorocyclopentadiene	ND		2720	614	23* a	40-140
67-72-1	Hexachloroethane	ND		2720	1780	66	40-140
193-39-5	Indeno(1,2,3-cd)pyrene	2900		2720	5920	111	40-140
78-59-1	Isophorone	ND		2720	1750	64	40-140
91-57-6	2-Methylnaphthalene	299		2720	2380	77	40-140
91-20-3	Naphthalene	662		2720	2730	76	40-140
98-95-3	Nitrobenzene	ND		2720	1720	63	40-140
621-64-7	N-Nitroso-di-n-propylamine	ND		2720	1950	72	40-140
86-30-6	N-Nitrosodiphenylamine	ND		2720	2250	83	40-140
85-01-8	Phenanthrene	6180		2720	11600	200* b	40-140
129-00-0	Pyrene	9050		2720	13200	153* b	40-140
120-82-1	1,2,4-Trichlorobenzene	ND		2720	1960	72	40-140

CAS No.	Surrogate Recoveries	MS	M96289-4	Limits
367-12-4 4165-62-2 118-79-6 4165-60-0 321-60-8	2-Fluorophenol Phenol-d5 2,4,6-Tribromophenol Nitrobenzene-d5 2-Fluorobiphenyl	60% 62% 67% 64% 74%	M96289-4 59% 61% 66% 63% 73%	30-130% 30-130% 30-130% 30-130% 30-130%
1718-51-0	Terphenyl-d14	84%	72%	30-130%



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**Method:** SW846 8270C

### **Matrix Spike Summary**

Job Number: M96289

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample OP23538-MS	File ID S19961.D	<b>DF</b>	<b>Analyzed</b> 12/13/10	<b>By</b> PR	<b>Prep Date</b> 12/06/10	Prep Batch OP23538	Analytical Batch MSS826
M96289-4	S19975.D	1	12/13/10	PR	12/06/10	OP23538	MSS826

The QC reported here applies to the following samples:

- (a) Outside control limits due to possible matrix interference. Refer to Blank Spike.
- (b) Outside control limits due to high level in sample relative to spike amount.

# Semivolatile Internal Standard Area Summary

**Job Number:** M96289

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Check Std:MSS826-CC822Injection Date:12/13/10Lab File ID:S19952.DInjection Time:11:46

**Instrument ID:** GCMSS Method: SW846 8270C

	IS 1 AREA	RT	IS 2 AREA RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std Upper Limit <sup>a</sup> Lower Limit <sup>b</sup>	218593 437186 109297	6.03 6.53 5.53	856118 7.40 1712236 7.90 428059 6.90	831968	9.63 10.13 9.13	642010 1284020 321005			16.21 16.71 15.71	576931 1153862 288466	18.44 18.94 17.94
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
M95727-18R OP23575-LB OP23539-MS OP23539-MSD OP23538-MB OP23538-BS OP23538-BSD OP23538-MS ZZZZZZ ZZZZZZ ZZZZZZ	253155 268236 228486 223064 296654 290714 266967 208816 273180 225199 299266 297067	6.03 6.03 6.03 6.03 6.04 6.04 6.04 6.04 6.04 6.04 6.04	1033434 7.40 1092315 7.40 950874 7.40 943654 7.40 1207985 7.40 1143012 7.40 1020014 7.40 874854 7.40 1113488 7.40 946882 7.40 1234710 7.40 1247347 7.40	527191 455468 449794 589630 546797 487989 443125 531230 462675 570721	9.63 9.63 9.63 9.63 9.63 9.63 9.63 9.63	779482 807422 686679 697178 863756 835725 741936 661758 754381 702612 795647 891503	11.84 11.85 11.85 11.85 11.85 11.84 11.84	700043 599528 602191 706856 714481 629424 536045 599834 606601	16.20 16.20 16.20 16.20 16.20 16.20 16.22 16.21 16.22 16.21	632061 651661 592392 588296 607635 613248 545823 593353 632022 691106 702738 702269	18.44 18.44 18.44 18.44 18.44 18.45 18.45 18.45 18.45
ZZZZZZ ZZZZZZ ZZZZZZ ZZZZZZ ZZZZZZ M96289-1 M96289-2 M96289-3 M96289-4 M96317-5	270917 272963 267760 277246 241511 217783 300527 268370 246588 238584	6.04 6.03 6.03 6.04 6.03 6.04 6.03 6.04 6.04 6.03	1113683 7.40 1136767 7.40 1087650 7.40 1100917 7.40 994088 7.40 763338 7.41 1107994 7.40 1084324 7.40 1036194 7.40 986228 7.40	537969 535584 514509 505804 479296 327673 466622 521379 512497	9.63 9.63 9.63 9.63 9.65 9.63 9.63 9.63 9.63	773134 761166 717723 708218 720484 520832 704549 745548 773685 753991	11.84 11.84 11.85 11.84 11.85 11.85 11.85 11.85 11.84	591541 607855 618555 633430 714946 512308 690055 726593 691352	16.20 16.21 16.21 16.22 16.21 16.22 16.23 16.22 16.22 16.22	696203 706579 760821 815021 809292 649713 936365 961904 864115	18.45 18.45 18.46 18.46 18.45 18.46 18.48 18.46 18.47 18.45

**IS 1** = 1,4-Dichlorobenzene-d4

IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

- (a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
- (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.



#### Semivolatile Internal Standard Area Summary

Job Number: M96289

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Check Std:MSS831-CC822Injection Date:12/15/10Lab File ID:S20034.DInjection Time:18:31

**Instrument ID:** GCMSS Method: SW846 8270C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std Upper Limit <sup>a</sup> Lower Limit <sup>b</sup>	256258 512516 128129	6.00 6.50 5.50	1014689 2029378 507345		509951 1019902 254976		782402 1564804 391201		722807 1445614 361404		680980 1361960 340490	18.42 18.92 17.92
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP23596-MB OP23596-BS OP23596-MS OP23596-MSD ZZZZZZ ZZZZZZ ZZZZZZ ZZZZZZ ZZZZZZ ZZZZ	314717 244280 223607 331756 262500 185696 247286 248365 221919 315366 234000 258691 225600 213869 209838 184631 223411 190392 209191	6.00 6.00 6.00 6.01 6.00 6.01 6.01 6.01	1291199 923273 848959 1223759 1052447 771001 981136 963400 867174 1192067 896535 1011689 902550 850875 831619 757022 897045 761603 838918	7.37 7.37 7.37 7.37 7.37 7.37 7.37 7.37	599464 417224 384598 511645 479012 370576 450476 434195 386473 520629 399970 474454 416307 386703 375715 354660 410701 347996 381247	9.60 9.60 9.59 9.60 9.59 9.59 9.60 9.59 9.60 9.59 9.59 9.59 9.59 9.59	809604 574063 534171 633099 648198 530882 615982 593800 543771 688658 537026 684920 585294 554268 545117 526030 602774 507900 563183	11.80 11.81 11.81 11.80 11.80 11.80 11.80 11.80 11.80 11.80 11.80 11.80 11.80 11.80 11.80	576623 457964 426646 454759 483798 428662 502178 494709 515044 555702 412082 531341 509551 485639 471055 450670 473508 447281 478924	16.17 16.17 16.17 16.17 16.17 16.17 16.17 16.17 16.17 16.17 16.17 16.17 16.17	489214 398638 436386 472744 460944 458531 556883 599825 669034 681174 552828 590054 617565 600947 583334 545005 552350 567371 581757	18.41 18.42 18.42 18.42 18.41 18.42 18.42 18.42 18.42 18.42 18.42 18.42 18.42 18.42 18.42 18.41 18.41 18.41
ZZZZZZ ZZZZZZ ZZZZZZ OP23577-LB M96289-2	216984 268028 224822 231730 236646	6.00 6.00 6.00 6.00 6.00	859574 1074202 875883 977905 953818	7.36	383034 480262 397002 480971 448637	9.59 9.59 9.59 9.59 9.59	546259 668162 568775 747199 686259	11.80 11.80 11.80 11.80	478924 455429 512498 478893 647490 615595	16.17 16.17 16.17 16.17 16.17	577180 563657 571536 691446 649586	18.41 18.41 18.41 18.41 18.42

**IS 1** = 1,4-Dichlorobenzene-d4

IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12



<sup>(</sup>a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.

<sup>(</sup>b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

# Semivolatile Surrogate Recovery Summary

Job Number: M96289

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Method: SW846 8270C Matrix: SO

#### Samples and QC shown here apply to the above method

Lab	Lab						
Sample ID	File ID	<b>S1</b>	S2	S3	<b>S4</b>	S5	<b>S6</b>
M96289-1	S19972.D	44.0	44.0	48.0	72.0	53.0	46.0
M96289-2	S20058.D	61.0	58.0	52.0	67.0	85.0	89.0
M96289-2	S19973.D	62.0	61.0	73.0	69.0	73.0	67.0
M96289-3	S19974.D	54.0	58.0	74.0	61.0	74.0	72.0
M96289-4	S19975.D	59.0	61.0	66.0	63.0	73.0	72.0
OP23538-BS	S19959.D	74.0	73.0	90.0	72.0	85.0	92.0
OP23538-BSD	S19960.D	71.0	69.0	88.0	72.0	85.0	90.0
OP23538-MB	S19958.D	81.0	78.0	93.0	79.0	91.0	106.0
OP23538-MS	S19961.D	60.0	62.0	67.0	64.0	74.0	84.0

Surrogate Recovery Compounds Limits

S1 =	2-Fluorophenol	30-130%
S2 =	Phenol-d5	30-130%
<b>S3</b> =	2,4,6-Tribromophenol	30-130%
S4 =	Nitrobenzene-d5	30-130%
S5 =	2-Fluorobiphenyl	30-130%
<b>S6</b> =	Terphenyl-d14	30-130%





### GC Volatiles

### QC Data Summaries

### Includes the following where applicable:

- · Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries



Method: MADEP VPH REV 1.1

### **Method Blank Summary**

Job Number: M96289

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample GBH929-MB	File ID BH17817.D	<b>DF</b> 1	<b>Analyzed</b> 12/07/10	By WS	Prep Date n/a	Prep Batch n/a	<b>Analytical Batch</b> GBH929

#### The QC reported here applies to the following samples:

CAS No.	Compound	Result	RL	Units Q
	C5- C8 Aliphatics (Unadj.)	ND	5000	ug/kg
	C9- C12 Aliphatics (Unadj.)	ND	5000	ug/kg
	C9- C10 Aromatics (Unadj.)	ND	5000	ug/kg
	C5- C8 Aliphatics	ND	5000	ug/kg
	C9- C12 Aliphatics	ND	5000	ug/kg

CAS No.	Surrogate Recoveries		Limits
615-59-8	2,5-Dibromotoluene	72%	70-130%
615-59-8	2,5-Dibromotoluene	70%	70-130%



Method: MADEP VPH REV 1.1

# Blank Spike/Blank Spike Duplicate Summary

Job Number: M96289

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample GBH929-BSP1 GBH929-BSD1	<b>File ID</b> BH17820.D BH17819.D	<b>Analyzed</b> 12/07/10 12/07/10	By WS WS	Prep Date n/a n/a	Prep Batch n/a n/a	<b>Analytical Batch</b> GBH929 GBH929

#### The QC reported here applies to the following samples:

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
	C5- C8 Aliphatics (Unadj.)	7500	5540	74	5650	75	2	70-130/25
	C9- C12 Aliphatics (Unadj.)	7500	8160	109	8220	110	1	70-130/25
	C9- C10 Aromatics (Unadj.)	2500	2620	105	2600	104	1	70-130/25

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
615-59-8	2,5-Dibromotoluene	83%	93%	70-130%
615-59-8	2,5-Dibromotoluene	80%	89%	70-130%



### Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96289

CAS No.

615-59-8

615-59-8

Account: HALEYALD Haley & Aldrich

Project: Former Energy International Parcel, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	<b>Analytical Batch</b>
M96285-3MS	BH17841.D	1	12/08/10	WS	n/a	n/a	GBH929
M96285-3MSD	BH17842.D	1	12/08/10	WS	n/a	n/a	GBH929
M96285-3	BH17840.D	1	12/08/10	WS	n/a	n/a	GBH929

The QC reported here applies to the following samples:

Method: MADEP VPH REV 1.1

M96289-1, M96289-2, M96289-3, M96289-4

**Surrogate Recoveries** 

2,5-Dibromotoluene

2,5-Dibromotoluene

CAS No.	Compound		Spike ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD

MSD

122%

118%

M96285-3

109%

104%

Limits

70-130%

70-130%

MS

125%

122%



### **Volatile Surrogate Recovery Summary**

Job Number: M96289

Account: HALEYALD Haley & Aldrich

Project: Former Energy International Parcel, MA

Method: MADEP VPH REV 1.1 Matrix: SO

#### Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	<b>S1</b> <sup>a</sup>	<b>S1</b> b
M96289-1	BH17848.D	223.0* <sup>c</sup>	134.0* c
M96289-1	BH17833.D	248.0* c	176.0* c
M96289-2	BH17834.D	129.0	130.0
M96289-3	BH17835.D	120.0	113.0
M96289-4	BH17836.D	113.0	109.0
GBH929-BSD1	BH17819.D	93.0	89.0
GBH929-BSP1	BH17820.D	83.0	80.0
GBH929-MB	BH17817.D	72.0	70.0
M96285-3MS	BH17841.D	125.0	122.0
M96285-3MSD	BH17842.D	122.0	118.0

Surrogate Recovery Compounds Limits

70-130% S1 = 2,5-Dibromotoluene

- (a) Recovery from GC signal #1
- (b) Recovery from GC signal #2
- (c) Outside control limits due to matrix interference. Confirmed by reanalysis.



## GC Semi-volatiles

## QC Data Summaries

## Includes the following where applicable:

- · Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method: MADEP EPH REV 1.1

### **Method Blank Summary**

Job Number: M96289

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample OP23590-MB	File ID BI2720.D	<b>DF</b> 1	<b>Analyzed</b> 12/13/10	By JD	<b>Prep Date</b> 12/10/10	Prep Batch OP23590	Analytical Batch GBI102

#### The QC reported here applies to the following samples:

M96289-1, M96289-2, M96289-3, M96289-4

CAS No.	Compound	Result	RL	Units Q
	C11-C22 Aromatics (Unadj.)	ND	18000	ug/kg
	C9-C18 Aliphatics	ND	8800	ug/kg
	C19-C36 Aliphatics	ND	8800	ug/kg
	C11-C22 Aromatics	ND	18000	ug/kg

CAS No.	<b>Surrogate Recoveries</b>		Limits
84-15-1	o-Terphenyl	84%	40-140%
321-60-8	2-Fluorobiphenyl	86%	40-140%
580-13-2	2-Bromonaphthalene	43%	40-140%
3386-33-2	1-Chlorooctadecane	57%	40-140%



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Method: MADEP EPH REV 1.1

### Blank Spike/Blank Spike Duplicate Summary

Job Number: M96289

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample OP23590-BS OP23590-BSD	File ID BI2721.D BI2722.D	<b>DF</b> 1 1	<b>Analyzed</b> 12/13/10 12/13/10	By JD JD	Prep Date 12/10/10 12/10/10	Prep Batch OP23590 OP23590	Analytical Batch GBI102 GBI102

#### The QC reported here applies to the following samples:

M96289-1, M96289-2, M96289-3, M96289-4

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
	C11-C22 Aromatics (Unadj.)	69000	75800	110 a	74700	104	1	40-140/25
	C9-C18 Aliphatics	25900	16400	63	16800	63	2	40-140/25
	C19-C36 Aliphatics	34500	23800	69	25000	70	5	40-140/25

CAS No.	<b>Surrogate Recoveries</b>	BSP	BSD	Limits
84-15-1	o-Terphenyl	93%	85%	40-140%
321-60-8	2-Fluorobiphenyl	92%	86%	40-140%
580-13-2	2-Bromonaphthalene	46%	56%	40-140%
3386-33-2	1-Chlorooctadecane	52%	48%	40-140%

Sample Compound Col #1 Col #2 Breakthrou	0
OP23590-BS       2-Methylnaphthalene       3070       467       13.2% *         OP23590-BS       Naphthalene       2680       681       20.3% *         OP23590-BSD       2-Methylnaphthalene       3410       42.8       1.2%         OP23590-BSD       Naphthalene       3160       95.2       2.9%	5.0 5.0 5.0 5.0

<sup>(</sup>a) Aromatic breakthrough (naphthalene and/or 2-methylnaphthalene) exceeded 5% method limit. Results confirmed by refractionation.



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Method: MADEP EPH REV 1.1

### Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M96289

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Sample OP23590-MS OP23590-MSD	<b>File ID</b> BI2729.D BI2731.D	<b>DF</b> 1	<b>Analyzed</b> 12/13/10 12/13/10	By JD JD	<b>Prep Date</b> 12/10/10 12/10/10	Prep Batch OP23590 OP23590	Analytical Batch GBI102 GBI102
M96289-4	BI2740.D	1	12/14/10	JD	12/10/10	OP23590	GBI102

The QC reported here applies to the following samples:

M96289-1, M96289-2, M96289-3, M96289-4

CAS No.	Compound	M96289-4 ug/kg Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
	- · · · · · · · · · · · · · · · · · · ·	219000	75400	261000	56		221* a		40-140/25
	C9-C18 Aliphatics	ND	28300	21800	77	25400	86	15	40-140/25
	C19-C36 Aliphatics	22500	37700	37600	40	43400	53	14	40-140/25

CAS No.	<b>Surrogate Recoveries</b>	MS	MSD	M96289-4	Limits
84-15-1	o-Terphenyl	113%	130%	117%	40-140%
321-60-8	2-Fluorobiphenyl	82%	86%	91%	40-140%
580-13-2	2-Bromonaphthalene	64%	58%	64%	40-140%
3386-33-2	1-Chlorooctadecane	45%	49%	46%	40-140%

<sup>(</sup>a) Outside control limits due to high level in sample relative to spike amount.



<sup>(</sup>b) Outside control limits due to possible matrix interference.

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### Semivolatile Surrogate Recovery Summary

**Job Number:** M96289

Account: HALEYALD Haley & Aldrich

**Project:** Former Energy International Parcel, MA

Method: MADEP EPH REV 1.1 Matrix: SO

#### Samples and QC shown here apply to the above method

Lab	Lab				
Sample ID	File ID	S1 a	<b>S2</b> a	S3 a	<b>S4</b> <sup>b</sup>
M96289-1	BI2782.D	78.0	127.0	231.0* <sup>c</sup>	49.0
M96289-2	BI2784.D	122.0	100.0	78.0	38.0* c
M96289-3	BI2725.D	92.0	88.0	66.0	40.0
M96289-4	BI2740.D	117.0	91.0	64.0	46.0
OP23590-BS	BI2721.D	93.0	92.0	46.0	52.0
OP23590-BSD	BI2722.D	85.0	86.0	56.0	48.0
OP23590-MB	BI2720.D	84.0	86.0	43.0	57.0
OP23590-MS	BI2729.D	113.0	82.0	64.0	45.0
OP23590-MSD	BI2731.D	130.0	86.0	58.0	49.0

Surrogate Recovery Compounds Limits

 S1 = o-Terphenyl
 40-140%

 S2 = 2-Fluorobiphenyl
 40-140%

 S3 = 2-Bromonaphthalene
 40-140%

 S4 = 1-Chlorooctadecane
 40-140%

- (a) Recovery from GC signal #1
- (b) Recovery from GC signal #2
- (c) Outside control limits due to possible matrix interference. Confirmed by refractionation.





## Metals Analysis

### QC Data Summaries

### Includes the following where applicable:

- · Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries



#### BLANK RESULTS SUMMARY Part 2 - Method Blanks

# Login Number: M96289 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16338 Matrix Type: SOLID Methods: SW846 6010C Units: mg/kg

Prep Date: 12/06/10

Prep Date.					12/06/10
Metal	RL	IDL	MDL	MB raw	final
Aluminum	20	1.5	1.5		
Antimony	1.0	.09	.12	-0.010	<1.0
Arsenic	1.0	.1	.13	-0.010	<1.0
Barium	5.0	.042	.2	0.18	<5.0
Beryllium	0.40	.014	.015	0.0	<0.40
Boron	10	.033	.12		
Cadmium	0.40	.011	.017	0.0	<0.40
Calcium	500	2.3	2.3		
Chromium	1.0	.047	.047	0.060	<1.0
Cobalt	5.0	.017	.017		
Copper	2.5	.086	.15		
Gold	5.0	.16	.16		
Iron	10	.39	.54		
Lead	1.0	.15	.15	0.030	<1.0
Magnesium	500	3.7	4.2		
Manganese	1.5	.011	.092		
Molybdenum	10	.021	.026		
Nickel	4.0	.021	.028	0.030	<4.0
Palladium	5.0	.24	.24		
Platinum	5.0	.73	.73		
Potassium	500	2.9	3.6		
Selenium	1.0	.11	.19	0.030	<1.0
Silicon	10	.12	.47		
Silver	0.50	.06	.06	0.050	<0.50
Sodium	500	1.5	4.2		
Strontium	1.0	.013	.015		
Thallium	1.0	.07	.12	0.23	<1.0
Tin	10	.036	.036		
Titanium	5.0	.057	.057		
Tungsten	10	.48	.57		
Vanadium	1.0	.073	.073	0.0	<1.0
Zinc	2.0	.024	.28	0.27	<2.0

Associated samples MP16338: M96289-1, M96289-2, M96289-3, M96289-4

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#### BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: M96289
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16338 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

# Login Number: M96289 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16338 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date:	12/06/10	12/06/10

Prep Date:				12/06/10				12/06/10		
Metal	M96289-4 Original		Spikelot MPICP	% Rec	QC Limits	M96289-4 Original		RPD	QC Limits	
Aluminum										
Antimony	63.6	63.4	42.2	-0.5 (a)	75-125	63.6	36.8	53.4 (d)	0-20	
Arsenic	13.1	52.7	42.2	93.9	75-125	13.1	10.9	18.3	0-20	
Barium	97.8	207	169	64.7 (a)	75-125	97.8	48.6	67.2 (d)	0-20	
Beryllium	0.28	37.0	42.2	87.1	75-125	0.28	0.29	3.5	0-20	
Boron										
Cadmium	0.27	43.2	42.2	101.8	75-125	0.27	0.26	3.8	0-20	
Calcium										
Chromium	13.1	55.7	42.2	101.0	75-125	13.1	12.4	5.5	0-20	
Cobalt										
Copper										
Gold										
Iron										
Lead	1690	1160	84.3	-628.3(b	75-125	1690	1010	50.4 (d)	0-20	
Magnesium										
Manganese										
Molybdenum										
Nickel	14.5	76.0	42.2	145.8(c)	75-125	14.5	17.2	17.0	0-20	
Palladium										
Platinum										
Potassium										
Selenium	0.0	40.0	42.2	94.8	75-125	0.0	0.0	NC	0-20	
Silicon										
Silver	5.2	17.9	16.9	75.3	75-125	5.2	0.80	146.7(d)	0-20	
Sodium										
Strontium										
Thallium	0.0	39.5	42.2	93.7	75-125	0.0	0.0	NC	0-20	
Tin										
Titanium										
Tungsten										
Vanadium	21.1	60.6	42.2	93.7	75-125	21.1	22.1	4.6	0-20	
Zinc	340	338	42.2	-4.7 (b)	75-125	340	302	11.8	0-20	
7	mlag MD1C	220. MOC2	00 1 MOC	200 2 140	6200 2 34	06200 4				

Associated samples MP16338: M96289-1, M96289-2, M96289-3, M96289-4

Login Number: M96289

Account: HALEYALD - Haley & Aldrich

Project: Former Energy International Parcel, MA

QC Batch ID: MP16338 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date:

Metal

 ${\tt Results} \, < \, {\tt IDL} \, \, {\tt are } \, \, {\tt shown} \, \, {\tt as } \, \, {\tt zero} \, \, \, {\tt for } \, \, {\tt calculation} \, \, {\tt purposes} \, \,$ 

- (\*) Outside of QC limits
- (N) Matrix Spike Rec. outside of QC limits

- (a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity. Post spike within acceptable range.
- (b) Spike amount low relative to the sample amount. Refer to  $\$ lab control or spike blank for recovery information.
- (c) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity. Post spike is not within acceptable range.
- $\hbox{(d) High RPD due to possible matrix interference and/or sample non-homogeneity.}\\$



# Login Number: M96289 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16338 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date:	12/06/10	12/06/10

Prep Date:			12/06/10	,		12/06/10			
Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	BSD Result	Spikelot MPICP	t % Rec	BSD RPD	QC Limit
Aluminum									
Antimony	49.3	50	98.6	80-120	48.7	50	97.4	1.2	20
Arsenic	50.1	50	100.2	80-120	49.4	50	98.8	1.4	20
Barium	187	200	93.5	80-120	182	200	91.0	2.7	20
Beryllium	46.7	50	93.4	80-120	45.3	50	90.6	3.0	20
Boron									
Cadmium	51.6	50	103.2	80-120	50.9	50	101.8	1.4	20
Calcium									
Chromium	49.5	50	99.0	80-120	48.8	50	97.6	1.4	20
Cobalt									
Copper									
Gold									
Iron									
Lead	97.5	100	97.5	80-120	96.6	100	96.6	0.9	20
Magnesium									
Manganese									
Molybdenum									
Nickel	50.4	50	100.8	80-120	49.8	50	99.6	1.2	20
Palladium									
Platinum									
Potassium									
Selenium	50.2	50	100.4	80-120	49.3	50	98.6	1.8	20
Silicon									
Silver	21.0	20	105.0	80-120	20.7	20	103.5	1.4	20
Sodium									
Strontium									
Thallium	51.2	50	102.4	80-120	50.4	50	100.8	1.6	20
Tin									
Titanium									
Tungsten									
Vanadium	51.8	50	103.6	80-120	51.2	50	102.4	1.2	20
Zinc	50.2	50	100.4	80-120	49.4	50	98.8	1.6	20

Associated samples MP16338: M96289-1, M96289-2, M96289-3, M96289-4

Login Number: M96289
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16338 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

# Login Number: M96289 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16338 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date: 12/06/10

TTCP Date:			12/00/10	
Metal	LCS Result	Spikelot MPLCS70		QC Limits
Aluminum				
Antimony	78.0	121	64.5	8-219
Arsenic	104	109	95.4	83-117
Barium	287	325	88.3	83-117
Beryllium	81.6	92.1	88.6	84-116
Boron				
Cadmium	114	110	103.6	81-119
Calcium				
Chromium	87.0	93.4	93.1	81-120
Cobalt				
Copper				
Gold				
Iron				
Lead	145	152	95.4	79-121
Magnesium				
Manganese				
Molybdenum				
Nickel	110	109	100.9	81-118
Palladium				
Platinum				
Potassium				
Selenium	201	207	97.1	79-120
Silicon				
Silver	51.8	51.9	99.8	66-134
Sodium				
Strontium				
Thallium	167	171	97.7	78-122
Tin				
Titanium				
Tungsten				
Vanadium	104	110	94.5	77-124
Zinc	283	299	94.6	82-118

Associated samples MP16338: M96289-1, M96289-2, M96289-3, M96289-4

Login Number: M96289
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16338 Methods: SW846 6010C Matrix Type: SOLID Units: mg/kg

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

#### SERIAL DILUTION RESULTS SUMMARY

# Login Number: M96289 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16338 Methods: SW846 6010C Matrix Type: SOLID Units: ug/l

Prep Date: 12/06/10

Prep Date.			12/06/10	
Metal	M96289-4 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony	754	770	2.2	0-10
Arsenic	156	155	0.6	0-10
Barium	1160	1210	4.4	0-10
Beryllium	3.30	3.10	6.1	0-10
Boron				
Cadmium	3.20	2.20	31.3 (a)	0-10
Calcium				
Chromium	156	166	6.4	0-10
Cobalt				
Copper				
Gold				
Iron				
Lead	20000	20200	0.8	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel	171	183	6.8	0-10
Palladium				
Platinum				
Potassium				
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	61.5	65.7	6.8	0-10
Sodium				
Strontium				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Tungsten				
Vanadium	250	258	3.3	0-10
Zinc	4030	4450	10.4 (b)	0-10

Associated samples MP16338: M96289-1, M96289-2, M96289-3, M96289-4

#### SERIAL DILUTION RESULTS SUMMARY

Login Number: M96289

Account: HALEYALD - Haley & Aldrich

Project: Former Energy International Parcel, MA

QC Batch ID: MP16338 Methods: SW846 6010C Matrix Type: SOLID Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

- (a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- (b) Serial dilution indicates possible matrix interference.

c

#### POST DIGESTATE SPIKE SUMMARY

Login Number: M96289

Account: HALEYALD - Haley & Aldrich

Project: Former Energy International Parcel, MA

Prep Date: 12/06/10

Prep Date:									12/06/10	
Metal	Sample ml	Final ml	M96289-4 Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony	9.9	10.1	753.7	738.7752	1954	.1	150	1485.149	81.8	-
Arsenic										
Barium	9.9	10.1	1160	1137.03	3253	.1	230	2277.228	92.9	-
Beryllium										
Boron										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Gold										
Iron										
Lead										
Magnesium										
Manganese										
Molybdenum										
Nickel	9.9	10.1	171.4	168.0059	743.5	.1	35	346.5347	166.1	-
Palladium										
Platinum										
Potassium										
Selenium										
Silicon										
Silver										
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Tungsten										
Vanadium										
Zinc										

Associated samples MP16338: M96289-1, M96289-2, M96289-3, M96289-4



#### POST DIGESTATE SPIKE SUMMARY

Login Number: M96289

Account: HALEYALD - Haley & Aldrich

Project: Former Energy International Parcel, MA

QC Batch ID: MP16338 Methods: SW846 6010C Matrix Type: SOLID Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (\*\*) Corr. sample result = Raw \* (sample volume / final volume) (anr) Analyte not requested

## BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: M96289
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16345 Methods: SW846 7471A Matrix Type: SOLID Units: mg/kg

Prep Date: 12/07/10

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.033	.0047	.0055	0.0058	<0.033

Associated samples MP16345: M96289-1, M96289-2, M96289-3, M96289-4

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

Login Number: M96289 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16345 Methods: SW846 7471A Matrix Type: SOLID Units: mg/kg

12/07/10 12/07/10 Prep Date:

Metal	M96289-4 Original		Spikelot HGRWS1	% Rec	QC Limits	M96289-4 Original		RPD	QC Limits
Mercury	1.6	2.2	0.518	115.8	75-125	1.6	1.7	6.1	0-20

Associated samples MP16345: M96289-1, M96289-2, M96289-3, M96289-4

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits  $\hfill \hfill$ 

(N) Matrix Spike Rec. outside of QC limits



Login Number: M96289 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16345 Matrix Type: SOLID

Methods: SW846 7471A Units: mg/kg

Prep Date:

12/07/10

12/07/10

Metal	BSP Result	Spikelot HGRWS1	% Rec	QC Limits	BSD Result	Spikelot HGRWS1	% Rec	BSD RPD	QC Limit
Mercury	0.50	0.5	100.0	80-120	0.51	0.5	102.0	2.0	30

Associated samples MP16345: M96289-1, M96289-2, M96289-3, M96289-4

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits  $\bar{\ }$ 



Login Number: M96289

Account: HALEYALD - Haley & Aldrich

Project: Former Energy International Parcel, MA

QC Batch ID: MP16345 Methods: SW846 7471A Matrix Type: SOLID Units: mg/kg

Prep Date: 12/07/10

Associated samples MP16345: M96289-1, M96289-2, M96289-3, M96289-4

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits  $\bar{\ }$ 

#### BLANK RESULTS SUMMARY Part 2 - Method Blanks

# Login Number: M96289 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16354 Methods: SW846 6010C Matrix Type: LEACHATE Units:  $\mbox{mg/l}$ 

Prep Date: 12/09/10

				MB	
Metal	RL	IDL	MDL	raw	final
Aluminum	0.20	.015	.015		
Antimony	0.0060	.0009	.0012		
Arsenic	0.010		.0019		
Barium	0.50	.00042	.0037		
Beryllium	0.0040	.00014	.0002		
Boron	0.10	.00033	.0015		
Cadmium	0.0040	.00011	.00012		
Calcium	5.0	.023	.039		
Chromium	0.010	.00047	.00053		
Cobalt	0.050	.00017	.00028		
Copper	0.025	.00086	.00086		
Gold	0.050	.0016	.0017		
Iron	0.10	.0039	.0041		
Lead	0.010	.0015	.0015	0.0013	<0.010
Magnesium	5.0	.037	.037		
Manganese	0.015	.00011	.0009		
Molybdenum	0.10	.00021	.00064		
Nickel	0.040	.00021	.0003		
Palladium	0.050	.0024	.0025		
Platinum	0.050	.0073	.0073		
Potassium	5.0	.029	.03		
Selenium	0.010		.0017		
Silicon	0.10	.0012	.0072		
Silver	0.0050		.0006		
Sodium	5.0		.031		
Strontium	0.010	.00013	.00031		
Thallium	0.0050	.0007	.00074		
Tin	0.10	.00036	.00043		
Titanium	0.050		.00043		
		.00057			
Tungsten	0.10	.0048	.012		
Vanadium	0.010	.00073	.0011		
Zinc	0.10	.00024	.002		

Associated samples MP16354: M96289-2A, M96289-3A, M96289-4A

#### BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: M96289
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16354 Methods: SW846 6010C Matrix Type: LEACHATE Units:  $\mbox{mg/l}$ 

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

Login Number: M96289
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16354 Methods: SW846 6010C Matrix Type: LEACHATE Units: mg/1

Prep Date: 12/09/10 12/09/10

Prep Date.			12/09/10	,	12/09/10			
Metal	M96199-5A Original MS	Spikelot MPICP	% Rec	QC Limits	M96289-4A Original LS	Spikelot MPICP	t % Rec	QC Limits
Aluminum								
Antimony								
Arsenic	anr							
Barium	anr							
Beryllium								
Boron								
Cadmium	anr							
Calcium								
Chromium	anr							
Cobalt								
Copper								
Gold								
Iron								
Lead	0.56 1.5	1.0	94.0	75-125	1.9 2.9	1.0	100.0	75-125
Magnesium								
Manganese								
Molybdenum								
Nickel								
Palladium								
Platinum								
Potassium								
Selenium	anr							
Silicon								
Silver	anr							
Sodium								
Strontium								
Thallium								
Tin								
Titanium								
Tungsten								
Vanadium								
Zinc								

Associated samples MP16354: M96289-2A, M96289-3A, M96289-4A

Login Number: M96289 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16354 Methods: SW846 6010C Matrix Type: LEACHATE Units: mg/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

Login Number: M96289
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16354 Methods: SW846 6010C Matrix Type: LEACHATE Units:  $\mbox{mg/l}$ 

Prep Date: 12/09/10

TICP DUCC.		12/07/1	
Metal	M96289-4A Original DUP	RPD	QC Limits
Aluminum			
Antimony			
Arsenic	anr		
Barium	anr		
Beryllium			
Boron			
Cadmium	anr		
Calcium			
Chromium	anr		
Cobalt			
Copper			
Gold			
Iron			
Lead	1.9 1.9	0.0	0-20
Magnesium			
Manganese			
Molybdenum			
Nickel			
Palladium			
Platinum			
Potassium			
Selenium	anr		
Silicon			
Silver	anr		
Sodium			
Strontium			
Thallium			
Tin			
Titanium			
Tungsten			
Vanadium			
Zinc			

Associated samples MP16354: M96289-2A, M96289-3A, M96289-4A

Login Number: M96289 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16354 Methods: SW846 6010C Matrix Type: LEACHATE Units: mg/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

Login Number: M96289
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16354 Methods: SW846 6010C Matrix Type: LEACHATE Units:  $\mbox{mg/l}$ 

Macrix Type.	DEACHALE					OIII C	5. mg/1		
Prep Date:			12/09/10			12/09/10			
Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	BSD Result	Spikelot MPICP	% Rec	BSD RPD	QC Limit
Aluminum									
Antimony									
Arsenic	anr								
Barium	anr								
Beryllium									
Boron									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt									
Copper									
Gold									
Iron									
Lead	0.91	1.0	91.0	80-120	0.91	1.0	91.0	0.0	20
Magnesium									
Manganese									
Molybdenum									
Nickel									
Palladium									
Platinum									
Potassium									
Selenium	anr								
Silicon									
Silver	anr								
Sodium									
Strontium									
Thallium									
Tin									
Titanium									
Tungsten									
Vanadium									
Zinc									

Associated samples MP16354: M96289-2A, M96289-3A, M96289-4A

Login Number: M96289
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16354 Methods: SW846 6010C Matrix Type: LEACHATE Units:  $\mbox{mg/l}$ 

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested



#### SERIAL DILUTION RESULTS SUMMARY

# Login Number: M96289 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

QC Batch ID: MP16354 Methods: SW846 6010C Matrix Type: LEACHATE Units: ug/l

Prep Date: 12/09/10

Metal	M96199-5 Original	5A SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium	anr			
Beryllium				
Boron				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper				
Gold				
Iron				
Lead	555	576	3.6	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel				
Palladium				
Platinum				
Potassium				
Selenium	anr			
Silicon				
Silver	anr			
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc				

Associated samples MP16354: M96289-2A, M96289-3A, M96289-4A

#### SERIAL DILUTION RESULTS SUMMARY

Login Number: M96289
Account: HALEYALD - Haley & Aldrich
Project: Former Energy International Parcel, MA

QC Batch ID: MP16354 Methods: SW846 6010C Matrix Type: LEACHATE Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested





## General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries



#### METHOD BLANK AND SPIKE RESULTS SUMMARY GENERAL CHEMISTRY

Login Number: M96289 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Cyanide Reactivity	GP12387/GN33647	1.5	<1.5	mg/kg	250	30.0	12.0	- %
Sulfide Reactivity	GP12388/GN33648	50	<50	mg/kg	400	400	100.0	- %

Associated Samples: Batch GP12387: M96289-1, M96289-2, M96289-3, M96289-4 Batch GP12388: M96289-1, M96289-2, M96289-3, M96289-4

(\*) Outside of QC limits



#### DUPLICATE RESULTS SUMMARY GENERAL CHEMISTRY

Login Number: M96289 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

2 2 4	D 1 1 TD	QC		Original	DUP	222	QC		
Analyte	Batch ID	Sample	Units	Result	Result	RPD	Limits		
Corrosivity as pH	GN33617	M96225-8		7.7	7.7	0.0	0-%		
Corrosivity as pH	GN33618	M96289-3		7.0	7.0	0.0	0-%		
Cyanide Reactivity	GP12387/GN33647	M96289-4	mg/kg	<1.7	<1.7	0.0	0-20%		
Ignitability (Flashpoint)	GN33658	M96289-4	Deg. F	>230	>230	0.0	0-20%		
Redox Potential Vs H2	GN33622	M96225-8	mv	426	423(a)	0.7(a)	0-20%		
Redox Potential Vs H2	GN33623	M96199-6	mv	326	323(a)	0.9(a)	0-20%		
Solids, Percent	GN33620	M96289-4	8	90.5	90.6	0.1	0-20%		
Sulfide Reactivity	GP12388/GN33648	M96289-4	mg/kg	<55	<55	0.0	0-20%		

Associated Samples:

Batch GN33617: M96289-1, M96289-2 Batch GN33618: M96289-3, M96289-4

Batch GN33620: M96289-1, M96289-2, M96289-3, M96289-4 Batch GN33622: M96289-1, M96289-2 Batch GN33623: M96289-3, M96289-4

Batch GN33658: M96289-1, M96289-2, M96289-3, M96289-4 Batch GP12387: M96289-1, M96289-2, M96289-3, M96289-4

Batch GP12388: M96289-1, M96289-2, M96289-3, M96289-4

(\*) Outside of QC limits

(a) Analysis requested after recommended holding time.



#### MATRIX SPIKE RESULTS SUMMARY GENERAL CHEMISTRY

Login Number: M96289 Account: HALEYALD - Haley & Aldrich Project: Former Energy International Parcel, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Cyanide Reactivity	GP12387/GN33647	M96289-4	mg/kg	<1.7	276	32.2	11.7	- %
Sulfide Reactivity	GP12388/GN33648	M96289-4	mg/kg	<55	442	387	87.6	- %

Associated Samples: Batch GP12387: M96289-1, M96289-2, M96289-3, M96289-4 Batch GP12388: M96289-1, M96289-2, M96289-3, M96289-4

(\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits





#### ANALYTICAL REPORT

Lab Number: L1203630

Client: Haley & Aldrich, Inc.

465 Medford Street, Suite 2200 Charlestown, MA 02129-1400

ATTN: Cole Worthy
Phone: (617) 886-7341

Project Name: FMR ENERGY INT. PARCEL

Project Number: 06318-520

Report Date: 03/08/12

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Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

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Project Name: FMR ENERGY INT. PARCEL Lab Number: L1203630

**Project Number:** 06318-520 **Report Date:** 03/08/12

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1203630-01	HA-202 S1	495 TECH CTR.	03/02/12 08:45
L1203630-02	HA-202 S2	495 TECH CTR.	03/02/12 09:00
L1203630-03	HA-202 S3	495 TECH CTR.	03/02/12 09:10
L1203630-04	HA-202 S4	495 TECH CTR.	03/02/12 09:20
L1203630-05	HA-202 S5	495 TECH CTR.	03/02/12 09:30
L1203630-06	HA-203 S1	495 TECH CTR.	03/02/12 09:45
L1203630-07	HA-203 S2	495 TECH CTR.	03/02/12 09:50
L1203630-08	HA-203 S3	495 TECH CTR.	03/02/12 09:55
L1203630-09	HA-203 S4	495 TECH CTR.	03/02/12 10:10
L1203630-10	HA-203 S5	495 TECH CTR.	03/02/12 10:15

Project Name: FMR ENERGY INT. PARCEL Lab Number: L1203630

**Project Number:** 06318-520 **Report Date:** 03/08/12

## **MADEP MCP Response Action Analytical Report Certification**

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An af	firmative response to questions A through F is required for "Presumptive Certainty" status	
Α	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A res	A response to questions G, H and I is required for "Presumptive Certainty" status						
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES					
Н	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES					
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES					

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name:FMR ENERGY INT. PARCELLab Number:L1203630Project Number:06318-520Report Date:03/08/12

#### **Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

	Please contact	Client Services	at 800-624-9220	with anv	auestions.
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MCP Related Narratives

Report Submission

All MCP required questions were answered with affirmative responses; therefore, there are no relevant protocol-specific QC and/or performance standard non-conformances to report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

Title: Technical Director/Representative Date: 03/08/12

600, Skudow Kelly Stenstrom

## **ORGANICS**



## **PCBS**



Project Name:FMR ENERGY INT. PARCELLab Number:L1203630

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: Date Collected: 03/02/12 08:45

Client ID: HA-202 S1 Date Received: 03/02/12 Sample Location: 495 TECH CTR. Field Prep: Not Specified

**Extraction Method: EPA 3540C** Matrix: Soil Analytical Method: 97,8082 **Extraction Date:** 03/03/12 01:35 Analytical Date: 03/05/12 12:42 Cleanup Method1: EPA 3665A Analyst: KΒ Cleanup Date1: 03/05/12

Percent Solids: 94% Cleanup Method2: EPA 3660B

Cleanup Date2: 03/05/12

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>
MCP Polychlorinated Biphenyls	s - Westborough Lab					
1 1010	ND		4	05.4		_
Aroclor 1016	ND		ug/kg	35.4		1
Aroclor 1221	ND		ug/kg	35.4		1
Aroclor 1232	ND		ug/kg	35.4		1
Aroclor 1242	ND		ug/kg	35.4		1
Aroclor 1248	158		ug/kg	35.4		1
Aroclor 1254	190		ug/kg	35.4		1
Aroclor 1260	125		ug/kg	35.4		1
Aroclor 1262	ND		ug/kg	35.4		1
Aroclor 1268	ND		ug/kg	35.4		1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,4,5,6-Tetrachloro-m-xylene	78		30-150	
Decachlorobiphenyl	82		30-150	
2,4,5,6-Tetrachloro-m-xylene	68		30-150	
Decachlorobiphenyl	84		30-150	



03/05/12

1

Cleanup Date1:

38.6

ug/kg

Project Name: FMR ENERGY INT. PARCEL Lab Number: L1203630

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: Date Collected: 03/02/12 09:00

Client ID: HA-202 S2 Date Received: 03/02/12 Sample Location: 495 TECH CTR. Field Prep: Not Specification 

Output

Date Received: 03/02/12 

Field Prep: Not Specification 

Field Prep: Not Specification 

Output

Date Received: 03/02/12 

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Date Received: 03/0

Sample Location:495 TECH CTR.Field Prep:Not SpecifiedMatrix:SoilExtraction Method:EPA 3540CAnalytical Method:97,8082Extraction Date:03/03/12 01:35Analytical Date:03/05/12 12:55Cleanup Method1:EPA 3665A

Percent Solids: 85% Cleanup Method2: EPA 3660B Cleanup Date2: 03/05/12

**Parameter** Result Qualifier Units RLMDL **Dilution Factor** MCP Polychlorinated Biphenyls - Westborough Lab Aroclor 1016 ND ug/kg 38.6 1 ND Aroclor 1221 38.6 1 ug/kg --Aroclor 1232 ND 38.6 1 ug/kg --Aroclor 1242 ND ug/kg 38.6 1 1 Aroclor 1248 233 ug/kg 38.6 --Aroclor 1262 ND 38.6 1 ug/kg

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,4,5,6-Tetrachloro-m-xylene	74		30-150	
Decachlorobiphenyl	84		30-150	
2,4,5,6-Tetrachloro-m-xylene	67		30-150	
Decachlorobiphenyl	89		30-150	

ND



Analyst:

Aroclor 1268

KΒ

03/05/12

Cleanup Date1:

**Project Name:** Lab Number: FMR ENERGY INT. PARCEL L1203630

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: Date Collected: 03/02/12 09:00 L1203630-02

Client ID: HA-202 S2 Date Received: 03/02/12 Sample Location: Field Prep: 495 TECH CTR.

Not Specified **Extraction Method: EPA 3540C** Matrix: Soil Analytical Method: 97,8082 **Extraction Date:** 03/03/12 01:35 Analytical Date: 03/05/12 12:55 Cleanup Method1: EPA 3665A

85% Percent Solids: Cleanup Method2: EPA 3660B

Cleanup Date2: 03/05/12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - W	estborough Lab					
Aroclor 1254	319		ug/kg	38.6		1
Aroclor 1260	177		ug/kg	38.6		1

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
2,4,5,6-Tetrachloro-m-xylene	74		30-150			
Decachlorobiphenyl	84		30-150			
2,4,5,6-Tetrachloro-m-xylene	67		30-150			
Decachlorobiphenyl	89		30-150			



Analyst:

KΒ

Project Name: FMR ENERGY INT. PARCEL Lab Number: L1203630

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: L1203630-03 Date Collected: 03/02/12 09:10

Client ID: HA-202 S3 Date Received: 03/02/12 Sample Location: 495 TECH CTR. Field Prep: Not Speci

Sample Location:495 TECH CTR.Field Prep:Not SpecifiedMatrix:SoilExtraction Method:EPA 3540CAnalytical Method:97,8082Extraction Date:03/03/12 01:35Analytical Date:03/05/12 13:07Cleanup Method1:EPA 3665A

Analyst: KB Cleanup Method2: EPA 3660B Cleanup Date2: 03/05/12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor		
MCP Polychlorinated Biphenyls - Westborough Lab								
Aroclor 1016	ND		ug/kg	41.0		1		
Aroclor 1221	ND		ug/kg	41.0		1		
Aroclor 1232	ND		ug/kg	41.0		1		
Aroclor 1242	ND		ug/kg	41.0		1		
Aroclor 1248	ND		ug/kg	41.0		1		
Aroclor 1254	ND		ug/kg	41.0		1		
Aroclor 1260	ND		ug/kg	41.0		1		
Aroclor 1262	ND		ug/kg	41.0		1		
Aroclor 1268	ND		ug/kg	41.0		1		

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,4,5,6-Tetrachloro-m-xylene	77		30-150	
Decachlorobiphenyl	81		30-150	
2,4,5,6-Tetrachloro-m-xylene	70		30-150	
Decachlorobiphenyl	88		30-150	



03/05/12

**Project Name:** Lab Number: FMR ENERGY INT. PARCEL L1203630

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: Date Collected: 03/02/12 09:45 L1203630-06

Client ID: HA-203 S1 Date Received: 03/02/12 Sample Location: 495 TECH CTR. Field Prep:

Not Specified **Extraction Method: EPA 3540C** Matrix: Soil Analytical Method: 97,8082 **Extraction Date:** 03/03/12 01:35 Analytical Date: 03/05/12 13:19 Cleanup Method1: EPA 3665A

Analyst: Cleanup Date1: 84% Percent Solids: Cleanup Method2: EPA 3660B

Cleanup Date2: 03/05/12

KΒ

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westbo	rough Lab					
Aroclor 1016	ND		ug/kg	39.5		1
Aroclor 1221	ND		ug/kg	39.5		1
Aroclor 1232	ND		ug/kg	39.5		1
Aroclor 1242	ND		ug/kg	39.5		1
Aroclor 1248	155		ug/kg	39.5		1
Aroclor 1254	150		ug/kg	39.5		1
Aroclor 1262	ND		ug/kg	39.5		1
Aroclor 1268	ND		ug/kg	39.5		1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,4,5,6-Tetrachloro-m-xylene	73		30-150	
Decachlorobiphenyl	79		30-150	
2,4,5,6-Tetrachloro-m-xylene	67		30-150	
Decachlorobiphenyl	88		30-150	



Project Name: FMR ENERGY INT. PARCEL Lab Number: L1203630

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: Date Collected: 03/02/12 09:45

Client ID: HA-203 S1 Date Received: 03/02/12 Sample Location: 495 TECH CTR. Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C

Analytical Method: 97,8082 Extraction Date: 03/03/12 01:35

Analytical Date: 03/05/12 13:19 Cleanup Method1: EPA 3665A

Analyst: KB Cleanup Date1: 03/05/12
Percent Solids: 84% Cleanup Method2: EPA 3660B

Cleanup Date2: 03/05/12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westbo	rough Lab					
Aroclor 1260	101		ug/kg	39.5		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,4,5,6-Tetrachloro-m-xylene	73		30-150	
Decachlorobiphenyl	79		30-150	
2,4,5,6-Tetrachloro-m-xylene	67		30-150	
Decachlorobiphenyl	88		30-150	



Project Name: FMR ENERGY INT. PARCEL Lab Number: L1203630

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: Date Collected: 03/02/12 09:50

Client ID: HA-203 S2 Date Received: 03/02/12
Sample Location: 495 TECH CTR Field Prep: Not Specif

Sample Location: 495 TECH CTR. Field Prep: Not Specified Matrix: Soil **Extraction Method: EPA 3540C** Analytical Method: 97,8082 **Extraction Date:** 03/03/12 01:35 Analytical Date: 03/05/12 13:32 Cleanup Method1: **EPA 3665A** 

Analyst: KB Cleanup Date1: 03/05/12
Percent Solids: 90% Cleanup Method2: EPA 3660B
Cleanup Date2: 03/05/12

**Parameter** Result Qualifier Units RLMDL **Dilution Factor** MCP Polychlorinated Biphenyls - Westborough Lab Aroclor 1016 ND ug/kg 35.1 1 ND Aroclor 1221 35.1 1 ug/kg --Aroclor 1232 ND 35.1 1 ug/kg --Aroclor 1242 ND ug/kg 35.1 1 1 Aroclor 1248 73.5 ug/kg 35.1 --Aroclor 1262 ND 35.1 1 ug/kg Aroclor 1268 ND ug/kg 35.1 1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,4,5,6-Tetrachloro-m-xylene	74		30-150	
Decachlorobiphenyl	80		30-150	
2,4,5,6-Tetrachloro-m-xylene	69		30-150	
Decachlorobiphenyl	90		30-150	



03/05/12

Cleanup Date1:

**Project Name:** Lab Number: FMR ENERGY INT. PARCEL L1203630

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: Date Collected: 03/02/12 09:50 L1203630-07

Client ID: HA-203 S2 Date Received: 03/02/12 Sample Location: 495 TECH CTR. Field Prep:

Not Specified **Extraction Method: EPA 3540C** Matrix: Soil Analytical Method: 97,8082 **Extraction Date:** 03/03/12 01:35 Analytical Date: 03/05/12 13:32 Cleanup Method1: EPA 3665A

90% Percent Solids: Cleanup Method2: EPA 3660B

Cleanup Date2: 03/05/12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls	- Westborough Lab					
Aroclor 1254	102		ug/kg	35.1		1
Aroclor 1260	96.1		ug/kg	35.1		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,4,5,6-Tetrachloro-m-xylene	74		30-150	
Decachlorobiphenyl	80		30-150	
2,4,5,6-Tetrachloro-m-xylene	69		30-150	
Decachlorobiphenyl	90		30-150	



Analyst:

KΒ

03/05/12

Cleanup Date1:

**Project Name:** Lab Number: FMR ENERGY INT. PARCEL L1203630

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: Date Collected: 03/02/12 09:55 L1203630-08

Client ID: HA-203 S3 Date Received: 03/02/12 Sample Location: 495 TECH CTR. Field Prep:

Not Specified **Extraction Method: EPA 3540C** Matrix: Soil Analytical Method: 97,8082 **Extraction Date:** 03/03/12 01:35 Analytical Date: 03/05/12 13:44 Cleanup Method1: EPA 3665A

87% Percent Solids: Cleanup Method2: EPA 3660B

Cleanup Date2: 03/05/12

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>
MCP Polychlorinated Biphenyls	s - Westborough Lab					
Aroclor 1016	ND		ug/kg	36.7		1
Aroclor 1221	ND		ug/kg	36.7		1
Aroclor 1232	ND		ug/kg	36.7		1
Aroclor 1242	ND		ug/kg	36.7		1
Aroclor 1248	ND		ug/kg	36.7		1
Aroclor 1254	ND		ug/kg	36.7		1
Aroclor 1260	ND		ug/kg	36.7		1
Aroclor 1262	ND		ug/kg	36.7		1
Aroclor 1268	ND		ug/kg	36.7		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,4,5,6-Tetrachloro-m-xylene	75		30-150	
Decachlorobiphenyl	75		30-150	
2,4,5,6-Tetrachloro-m-xylene	71		30-150	
Decachlorobiphenyl	83		30-150	



Analyst:

KΒ

**Project Name:** FMR ENERGY INT. PARCEL

**Project Number:** 06318-520 Lab Number: **Report Date:** 

L1203630 03/08/12

**Method Blank Analysis Batch Quality Control** 

Analytical Method: Analytical Date:

97,8082 03/05/12 16:12

Analyst:

KΒ

Extraction Method: EPA 3540C

Extraction Date: Cleanup Method1: EPA 3665A

03/03/12 01:35

Cleanup Date1:

03/05/12

Cleanup Method2: EPA 3660B Cleanup Date2:

03/05/12

Parameter	Result	Qualifier	Units	RL		MDL
MCP Polychlorinated Biphenyls - \	Vestborough	Lab for san	nple(s): 01	1-03,06-08	Batch: \	WG521226-1
Aroclor 1016	ND		ug/kg	31.5		
Aroclor 1221	ND		ug/kg	31.5		
Aroclor 1232	ND		ug/kg	31.5		
Aroclor 1242	ND		ug/kg	31.5		
Aroclor 1248	ND		ug/kg	31.5		
Aroclor 1254	ND		ug/kg	31.5		
Aroclor 1260	ND		ug/kg	31.5		
Aroclor 1262	ND		ug/kg	31.5		
Aroclor 1268	ND		ug/kg	31.5		

			Acceptance	
Surrogate	%Recovery	Qualifier	Criteria	
2,4,5,6-Tetrachloro-m-xylene	66		30-150	
Decachlorobiphenyl	74		30-150	
2,4,5,6-Tetrachloro-m-xylene	68		30-150	
Decachlorobiphenyl	82		30-150	



## Lab Control Sample Analysis Batch Quality Control

**Project Name:** FMR ENERGY INT. PARCEL

**Project Number:** 06318-520 Lab Number: L1203630

Report Date: 03/08/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Polychlorinated Biphenyls - Westborouç	gh Lab Associat	ed sample(s):	01-03,06-08	Batch:	WG521226-2	WG521226-3		
Aroclor 1016	49		57		40-140	15		30
Aroclor 1260	50		55		40-140	10		30

	LCS		LCSD		Acceptance	
Surrogate	%Recovery	Qual	%Recovery	Qual	Criteria	
2,4,5,6-Tetrachloro-m-xylene	69		77		30-150	
Decachlorobiphenyl	70		71		30-150	
2,4,5,6-Tetrachloro-m-xylene	70		73		30-150	
Decachlorobiphenyl	79		78		30-150	



# INORGANICS & MISCELLANEOUS



Project Name: FMR ENERGY INT. PARCEL Lab Number: L1203630

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: L1203630-01 Date Collected: 03/02/12 08:45

Client ID: HA-202 S1 Date Received: 03/02/12 Sample Location: 495 TECH CTR. Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	94		%	0.10	NA	1	-	03/06/12 13:30	30,2540G	SD



Project Name: FMR ENERGY INT. PARCEL Lab Number: L1203630

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: L1203630-02 Date Collected: 03/02/12 09:00

Client ID: HA-202 S2 Date Received: 03/02/12 Sample Location: 495 TECH CTR. Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab	)								
Solids, Total	85		%	0.10	NA	1	-	03/06/12 13:30	30,2540G	SD



Project Name: FMR ENERGY INT. PARCEL Lab Number: L1203630

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

 Lab ID:
 L1203630-03
 Date Collected:
 03/02/12 09:10

 Client ID:
 HA-202 S3
 Date Received:
 03/02/12

Sample Location: 495 TECH CTR. Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	78		%	0.10	NA	1	-	03/06/12 13:30	30,2540G	SD



Project Name: FMR ENERGY INT. PARCEL Lab Number: L1203630

**SAMPLE RESULTS** 

Lab ID: L1203630-06 Date Collected: 03/02/12 09:45

Client ID: HA-203 S1 Date Received: 03/02/12 Sample Location: 495 TECH CTR. Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab	)								
Solids, Total	84		%	0.10	NA	1	-	03/06/12 13:30	30,2540G	SD



Project Name: FMR ENERGY INT. PARCEL Lab Number: L1203630

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: L1203630-07 Date Collected: 03/02/12 09:50

Client ID: HA-203 S2 Date Received: 03/02/12 Sample Location: 495 TECH CTR. Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab	)								
Solids, Total	90		%	0.10	NA	1	-	03/06/12 13:30	30,2540G	SD



Project Name: FMR ENERGY INT. PARCEL Lab Number: L1203630

**SAMPLE RESULTS** 

Lab ID: L1203630-08 Date Collected: 03/02/12 09:55

Client ID: HA-203 S3 Date Received: 03/02/12 Sample Location: 495 TECH CTR. Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	87		%	0.10	NA	1	-	03/06/12 13:30	30,2540G	SD



L1203630

Lab Duplicate Analysis
Batch Quality Control

Lab Number: **Project Name:** FMR ENERGY INT. PARCEL

03/08/12 **Project Number:** Report Date: 06318-520

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab	Associated sample(s): 01-03,06-08	QC Batch ID: WG521647-1	QC Sample:	L120363	0-01 Clien	t ID: HA-202 S1
Solids, Total	94	94	%	0		20



**Project Name:** FMR ENERGY INT. PARCEL

Lab Number: L1203630 Project Number: 06318-520 **Report Date:** 03/08/12

## **Sample Receipt and Container Information**

YES Were project specific reporting limits specified?

Reagent H2O Preserved Vials Frozen on: NA

**Cooler Information Custody Seal** 

Cooler

Α Absent

Container Info	rmation			Temp			
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1203630-01A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	TS(7),MCP-8082-10- 3540C(365)
L1203630-02A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	TS(7),MCP-8082-10- 3540C(365)
L1203630-03A	Amber 120ml unpreserved	Α	N/A	2.8	Y	Absent	TS(7),MCP-8082-10- 3540C(365)
L1203630-04A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	HOLD(14)
L1203630-05A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	HOLD(14)
L1203630-06A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	TS(7),MCP-8082-10- 3540C(365)
L1203630-07A	Amber 120ml unpreserved	Α	N/A	2.8	Y	Absent	TS(7),MCP-8082-10- 3540C(365)
L1203630-08A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	TS(7),MCP-8082-10- 3540C(365)
L1203630-09A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	HOLD(14)
L1203630-10A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	HOLD(14)

## **Container Comments**

L1203630-04A

L1203630-05A

L1203630-09A

L1203630-10A



Project Name:FMR ENERGY INT. PARCELLab Number:L1203630Project Number:06318-520Report Date:03/08/12

#### **GLOSSARY**

#### **Acronyms**

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes
or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

 MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

#### Footnotes

- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

#### **Terms**

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

#### Data Qualifiers

- A Spectra identified as "Aldol Condensation Product".
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

Report Format: Data Usability Report



Project Name:FMR ENERGY INT. PARCELLab Number:L1203630Project Number:06318-520Report Date:03/08/12

#### **Data Qualifiers**

- ${f P}$  The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- $\boldsymbol{R}$  Analytical results are from sample re-analysis.
- **RE** Analytical results are from sample re-extraction.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Project Name:FMR ENERGY INT. PARCELLab Number:L1203630Project Number:06318-520Report Date:03/08/12

#### REFERENCES

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

### **LIMITATION OF LIABILITIES**

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certificate/Approval Program Summary

Last revised January 30, 2012 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

### Connecticut Department of Public Health Certificate/Lab ID: PH-0574. NELAP Accredited Solid Waste/Soil.

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate.

Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

#### Maine Department of Human Services Certificate/Lab ID: 2009024.

*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. <u>Organic Parameters</u>: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223D, 9222D. Organic Parameters: 608, 8081, 8082, 8330, 8151A, 624, 8260, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014A, 9040B, 9045C, 6010B, 7471A, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8330, 8151A, 8081A, 8082, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

#### Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.

Drinking Water (Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

Page 30 of 3Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); 245.1, SM4500H,B, EPA 120.1,

SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B;Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. NELAP Accredited.

Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8151A.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050C, 9065,1311, 1312, 3005A, 3050B. Organic Parameters: SW-846 3540C, 3546, 3550B, 3580A, 3630C, 5030B, 5035, 8260B, 8270C, 8330, 8151A, 8015B, 8082, 8081A.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. NELAP Accredited.

Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 6020, 6020A, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, 3015, EPA 6010B, 6010C, 7196A, 3060A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8081B, 8082, 8082A, 8151A, 8330, NJ OQA-QAM-025 Rev.7, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C, 7196A, 3060A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3545, 3546, 3550B, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. NELAP Accredited.

Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-04-1-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 9010B, 9030B.. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: 1010, 1030, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8015B, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

North Carolina Department of the Environment and Natural Resources <u>Certificate/Lab ID</u>: 666. <u>Organic Parameters</u>: MA-EPH, MA-VPH.

Page Brinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID: 68-03671. NELAP Accredited. Drinking Water (Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 1312, 200.7, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE. Organic Parameters: EPA 3510C, 3005A, 3630C, 5030B, 625, 624, 608, 8081A, 8081B, 8082, 802A, 8151A, 8260B, 8270C, 8270D, 8330)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 3060A, 6010B, 6010C, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3546, 3580A, 3630C, 5035, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260B, 8270C, 8270D, 8330)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. NELAP Accredited via NY-DOH. Refer to MA-DEP Certificate for Potable and Non-Potable Water. Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commisson on Environmental Quality Certificate/Lab ID: T104704476-09-1. NELAP Accredited. Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2<sup>-</sup> D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. NELAP Accredited. Non-Potable Water (Inorganic Parameters: EPA 3005A,3015,1312,6010B,6010C,SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X. Organic Parameters: EPA 8260B)

Solid & Hazardous Waste (Inorganic Parameters: EPA 3050B, 1311, 1312, 6010B, 6010C, 9030B, 9010B, 9012A, 9014, Organic Parameters: EPA 5035, 5030B, 8260B.)

Department of Defense, L-A-B Certificate/Lab ID: L2217.

Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 5220D, 5310C, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8270C, 8330A, 625, 8082, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9010, 9012A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8270C, 8330A/B-prep, 8082, 8081A, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:

EPA 8260B: Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. EPA 8330A: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625**: 4-Chloroaniline, 4-Methylphenol. Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix, SO4 in a soil matrix.

HATEY®	Haley & Aldrich, Inc. 465 Medford St., Suite 7700	t.,			<b>T</b>	HAIN OF CUSTOD				\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	V RECORD			Phone Fax	(617) 886-7400 (617) 886-7600	
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If Presumptive Certainty Data Package is needed, initial all sections:  The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.	nckage is needer n field QC samp	d, initial all se des, as designa	ctions: ted in BWSC (	CAM-VII hav	e been or will b	e collected, as	appropriate, to	meet the requ	rements of Pro	asumptive Cer		Required Rep	orting Limits a	Required Reporting Limits and Data Quality Objectives	Objectives	
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Form 3003



#### ANALYTICAL REPORT

Lab Number: L1203632

Client: Haley & Aldrich, Inc.

465 Medford Street, Suite 2200 Charlestown, MA 02129-1400

ATTN: Cole Worthy
Phone: (617) 886-7341

Project Name: FMR. ENERGY INT. PARCEL

Project Number: 06318-520

Report Date: 03/08/12

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Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: FMR. ENERGY INT. PARCEL Lab Number: L1203632

**Project Number:** 06318-520 **Report Date:** 03/08/12

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1203632-01	HA-204 S1	495 TECH CTR	03/02/12 10:25
L1203632-02	HA-204 S2	495 TECH CTR	03/02/12 10:30
L1203632-03	HA-204 S3	495 TECH CTR	03/02/12 10:35
L1203632-04	HA-204 S4	495 TECH CTR	03/02/12 10:40
L1203632-05	HA-204 S5	495 TECH CTR	03/02/12 10:45
L1203632-06	HA-205 S1	495 TECH CTR	03/02/12 10:55
L1203632-07	HA-205 S2	495 TECH CTR	03/02/12 11:05
L1203632-08	HA-205 S3	495 TECH CTR	03/02/12 11:10
L1203632-09	HA-205 S4	495 TECH CTR	03/02/12 11:15
L1203632-10	HA-205 S5	495 TECH CTR	03/02/12 11:20

Project Name: FMR. ENERGY INT. PARCEL Lab Number: L1203632

**Project Number:** 06318-520 **Report Date:** 03/08/12

# **MADEP MCP Response Action Analytical Report Certification**

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An af	firmative response to questions A through F is required for "Presumptive Certainty" status	
Α	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A res	sponse to questions G, H and I is required for "Presumptive Certainty" status	
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
н	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
ı	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: FMR. ENERGY INT. PARCEL Lab Number: L1203632

Project Number: 06318-520 Report Date: 03/08/12

#### **Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### MCP Related Narratives

Please contact Client Services at 800-624-9220 with any questions.

# PCB

L1203632-02 has elevated detection limits due to the dilution required by matrix interferences encountered during the concentration of the sample.

L1203632-06 has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

In reference to question G:

L1203632-06: One or more of the target analytes did not achieve the requested CAM reporting limits.



Project Name:FMR. ENERGY INT. PARCELLab Number:L1203632Project Number:06318-520Report Date:03/08/12

### Case Narrative (continued)

In reference to question H:

The surrogate recovery for L1203632-02 is outside the individual acceptance criteria for Decachlorobiphenyl (193%), but within the overall method allowances. The results of the original analysis are reported; however, all associated compounds are considered to have a potential bias.

The surrogate recoveries for L1203632-06 are below the acceptance criteria for 2,4,5,6-Tetrachloro-m-xylene and Decachlorobiphenyl (all 0%) due to the dilution required to quantitate the sample. Re-extraction was not required; therefore, the results of the original analysis are reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Michelle M. Morris

Authorized Signature:

Title: Technical Director/Representative

ALPHA

Date: 03/08/12

# **ORGANICS**



# **PCBS**



Project Name: FMR. ENERGY INT. PARCEL Lab Number: L1203632

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: Date Collected: 03/02/12 10:25

Client ID: HA-204 S1 Date Received: 03/02/12 Sample Location: 495 TECH CTR Field Prep: Not Specification

Sample Location:495 TECH CTRField Prep:Not SpecifiedMatrix:SoilExtraction Method:EPA 3540CAnalytical Method:97,8082Extraction Date:03/03/12 01:35Analytical Date:03/05/12 13:56Cleanup Method1:EPA 3665A

Analyst: KB Cleanup Date1: 03/05/12
Percent Solids: 90% Cleanup Method2: EPA 3660B
Cleanup Date2: 03/05/12

**Parameter** Result Qualifier Units RLMDL **Dilution Factor** MCP Polychlorinated Biphenyls - Westborough Lab Aroclor 1016 ND ug/kg 36.9 1 ND Aroclor 1221 36.9 1 ug/kg --Aroclor 1232 ND 36.9 1 ug/kg --Aroclor 1242 ND ug/kg 36.9 1 ND 1 Aroclor 1248 ug/kg 36.9 --Aroclor 1262 ND 36.9 1 ug/kg Aroclor 1268 ND ug/kg 36.9 1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	59		30-150
Decachlorobiphenyl	66		30-150
2,4,5,6-Tetrachloro-m-xylene	55		30-150
Decachlorobiphenyl	75		30-150



Project Name:FMR. ENERGY INT. PARCELLab Number:L1203632

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: Date Collected: 03/02/12 10:25

Client ID: HA-204 S1 Date Received: 03/02/12 Sample Location: 495 TECH CTR Field Prep: Not Specified

**Extraction Method: EPA 3540C** Matrix: Soil Analytical Method: 97,8082 **Extraction Date:** 03/03/12 01:35 Analytical Date: 03/05/12 13:56 Cleanup Method1: EPA 3665A Analyst: KΒ Cleanup Date1: 03/05/12

Percent Solids: 90% Cleanup Method2: EPA 3660B Cleanup Date2: 03/05/12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westbo	orough Lab					
Aroclor 1254	67.0		ug/kg	36.9		1
Aroclor 1260	117		ua/ka	36.9		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,4,5,6-Tetrachloro-m-xylene	59		30-150	
Decachlorobiphenyl	66		30-150	
2,4,5,6-Tetrachloro-m-xylene	55		30-150	
Decachlorobiphenyl	75		30-150	



Project Name:FMR. ENERGY INT. PARCELLab Number:L1203632

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: L1203632-02
Client ID: HA-204 S2
Sample Location: 495 TECH CTR

Matrix: Soil
Analytical Method: 97,8082

Analytical Date: 03/08/12 12:21

Analyst: KB Percent Solids: 87% Date Collected: 03/02/12 10:30 Date Received: 03/02/12 Field Prep: Not Specified **Extraction Method: EPA 3540C Extraction Date:** 03/07/12 15:50 Cleanup Method1: EPA 3665A Cleanup Date1: 03/08/12 Cleanup Method2: EPA 3660B Cleanup Date2: 03/08/12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westbor	ough Lab					
Aroclor 1016	ND		ug/kg	75.1		2
Aroclor 1221	ND		ug/kg	75.1		2
Aroclor 1232	ND		ug/kg	75.1		2
Aroclor 1242	ND		ug/kg	75.1		2
Aroclor 1248	ND		ug/kg	75.1		2
Aroclor 1254	ND		ug/kg	75.1		2
Aroclor 1260	ND		ug/kg	75.1		2
Aroclor 1262	ND		ug/kg	75.1		2
Aroclor 1268	ND		ug/kg	75.1		2

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,4,5,6-Tetrachloro-m-xylene	80		30-150	
Decachlorobiphenyl	82		30-150	
2,4,5,6-Tetrachloro-m-xylene	77		30-150	
Decachlorobiphenyl	193	Q	30-150	



Project Name:FMR. ENERGY INT. PARCELLab Number:L1203632

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

 Lab ID:
 L1203632-03
 Date Collected:
 03/02/12 10:35

 Client ID:
 HA-204 S3
 Date Received:
 03/02/12

Client ID: HA-204 S3 Date Received: 03/02/12
Sample Location: 495 TECH CTR Field Prep: Not Specified

**Extraction Method: EPA 3540C** Matrix: Soil Analytical Method: 97,8082 **Extraction Date:** 03/03/12 01:35 Analytical Date: 03/05/12 14:21 Cleanup Method1: EPA 3665A Analyst: KΒ Cleanup Date1: 03/05/12

Percent Solids: 78% Cleanup Method2: EPA 3660B Cleanup Date2: 03/05/12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westbo	orough Lab					
Aroclor 1016	ND		ug/kg	42.0		1
Aroclor 1221	ND		ug/kg	42.0		1
Aroclor 1232	ND		ug/kg	42.0		1
Aroclor 1242	ND		ug/kg	42.0		1
Aroclor 1248	ND		ug/kg	42.0		1
Aroclor 1254	ND		ug/kg	42.0		1
Aroclor 1260	ND		ug/kg	42.0		1
Aroclor 1262	ND		ug/kg	42.0		1
Aroclor 1268	ND		ug/kg	42.0		1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,4,5,6-Tetrachloro-m-xylene	61		30-150	
Decachlorobiphenyl	64		30-150	
2,4,5,6-Tetrachloro-m-xylene	59		30-150	
Decachlorobiphenyl	77		30-150	



Project Name:FMR. ENERGY INT. PARCELLab Number:L1203632

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: L1203632-06 D Date Collected: 03/02/12 10:55

Client ID: HA-205 S1 Date Received: 03/02/12 Sample Location: 495 TECH CTR Field Prep: Not Specified

**Extraction Method: EPA 3540C** Matrix: Soil Analytical Method: 97,8082 **Extraction Date:** 03/03/12 01:35 Analytical Date: 03/07/12 20:19 Cleanup Method1: EPA 3665A Analyst: KΒ Cleanup Date1: 03/05/12 92%

Percent Solids: 92% Cleanup Method2: EPA 3660B Cleanup Date2: 03/05/12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls -	Westborough Lab					
Aroclor 1016	ND		ug/kg	692		20
Aroclor 1221	ND		ug/kg	692		20
Aroclor 1232	ND		ug/kg	692		20
Aroclor 1242	ND		ug/kg	692		20
Aroclor 1254	9840		ug/kg	692		20
Aroclor 1262	ND		ug/kg	692		20
Aroclor 1268	ND		ug/kg	692		20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	0	Q	30-150
Decachlorobiphenyl	0	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	0	Q	30-150
Decachlorobiphenyl	0	Q	30-150



Project Name: FMR. ENERGY INT. PARCEL Lab Number: L1203632

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: L1203632-06 D Date Collected: 03/02/12 10:55

Client ID: HA-205 S1 Date Received: 03/02/12 Sample Location: 495 TECH CTR Field Prep: Not Specified

Matrix: Soil **Extraction Method: EPA 3540C** Analytical Method: 97,8082 **Extraction Date:** 03/03/12 01:35 Analytical Date: 03/07/12 20:19 Cleanup Method1: EPA 3665A Analyst: KΒ Cleanup Date1: 03/05/12

Percent Solids: 92% Cleanup Method2: EPA 3660B Cleanup Date2: 03/05/12

Qualifier **Parameter** Result Units RLMDL **Dilution Factor** MCP Polychlorinated Biphenyls - Westborough Lab Aroclor 1248 4600 ug/kg 692 20 2110 20 Aroclor 1260 ug/kg 692

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	0	Q	30-150
Decachlorobiphenyl	0	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	0	Q	30-150
Decachlorobiphenyl	0	Q	30-150



03/05/12

Cleanup Date1:

**Project Name:** Lab Number: FMR. ENERGY INT. PARCEL L1203632

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: Date Collected: 03/02/12 11:05 L1203632-07

Client ID: HA-205 S2 Date Received: 03/02/12 Sample Location: 495 TECH CTR Field Prep: Not Specified

**Extraction Method: EPA 3540C** Matrix: Soil Analytical Method: 97,8082 **Extraction Date:** 03/03/12 01:35 Analytical Date: 03/05/12 14:45 Cleanup Method1: EPA 3665A

90% Percent Solids: Cleanup Method2: EPA 3660B

Cleanup Date2: 03/05/12

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>				
ICP Polychlorinated Biphenyls - Westborough Lab										
Aroclor 1016	ND		ug/kg	36.0		1				
Aroclor 1221	ND		ug/kg	36.0		1				
Aroclor 1232	ND		ug/kg	36.0		1				
Aroclor 1242	ND		ug/kg	36.0		1				
Aroclor 1248	ND		ug/kg	36.0		1				
Aroclor 1254	80.0		ug/kg	36.0		1				
Aroclor 1260	ND		ug/kg	36.0		1				
Aroclor 1262	ND		ug/kg	36.0		1				
Aroclor 1268	ND		ug/kg	36.0		1				

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,4,5,6-Tetrachloro-m-xylene	69		30-150	
Decachlorobiphenyl	74		30-150	
2,4,5,6-Tetrachloro-m-xylene	69		30-150	
Decachlorobiphenyl	92		30-150	



Analyst:

KΒ

Project Name:FMR. ENERGY INT. PARCELLab Number:L1203632

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

 Lab ID:
 L1203632-08
 Date Collected:
 03/02/

 Client ID:
 HA-205 S3
 Date Received:
 03/02/

Sample Location: 495 TECH CTR
Matrix: Soil
Analytical Method: 97,8082

Analytical Date: 03/05/12 14:58

Analyst: KB Percent Solids: 87% Date Collected: 03/02/12 11:10 03/02/12 Field Prep: Not Specified **Extraction Method: EPA 3540C Extraction Date:** 03/03/12 01:35 Cleanup Method1: EPA 3665A Cleanup Date1: 03/05/12 Cleanup Method2: EPA 3660B Cleanup Date2: 03/05/12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
MCP Polychlorinated Biphenyls - Westborough Lab									
Aroclor 1016	ND		ug/kg	37.8		1			
Aroclor 1221	ND		ug/kg	37.8		1			
Aroclor 1232	ND		ug/kg	37.8		1			
Aroclor 1242	ND		ug/kg	37.8		1			
Aroclor 1248	ND		ug/kg	37.8		1			
Aroclor 1254	ND		ug/kg	37.8		1			
Aroclor 1260	ND		ug/kg	37.8		1			
Aroclor 1262	ND		ug/kg	37.8		1			
Aroclor 1268	ND		ug/kg	37.8		1			

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,4,5,6-Tetrachloro-m-xylene	34		30-150	
Decachlorobiphenyl	35		30-150	
2,4,5,6-Tetrachloro-m-xylene	34		30-150	
Decachlorobiphenyl	39		30-150	



Project Name: FMR. ENERGY INT. PARCEL

**Project Number:** 06318-520

Lab Number:

L1203632

Report Date:

03/08/12

Method Blank Analysis
Batch Quality Control

Analytical Method: Analytical Date: 97,8082 03/05/12 16:12

Analyst:

ΚB

Extraction Method: EPA 3540C

Extraction Date: 03/03/12 01:35 Cleanup Method1: EPA 3665A Cleanup Date1: 03/05/12 Cleanup Method2: EPA 3660B

Cleanup Date2: 03/05/12

Parameter	Result	Qualifier	Units	RL	MDL
MCP Polychlorinated Biphenyls - V	Vestborough	Lab for san	nple(s): 01	,03,06-08	Batch: WG521226-1
Aroclor 1016	ND		ug/kg	31.5	
Aroclor 1221	ND		ug/kg	31.5	
Aroclor 1232	ND		ug/kg	31.5	
Aroclor 1242	ND		ug/kg	31.5	
Aroclor 1248	ND		ug/kg	31.5	
Aroclor 1254	ND		ug/kg	31.5	
Aroclor 1260	ND		ug/kg	31.5	
Aroclor 1262	ND		ug/kg	31.5	
Aroclor 1268	ND		ug/kg	31.5	<del></del>

			Acceptance	
Surrogate	%Recovery	Qualifier	Criteria	
2,4,5,6-Tetrachloro-m-xylene	66		30-150	
Decachlorobiphenyl	74		30-150	
2,4,5,6-Tetrachloro-m-xylene	68		30-150	
Decachlorobiphenyl	82		30-150	



**Project Name:** FMR. ENERGY INT. PARCEL

**Project Number:** 06318-520 Lab Number:

L1203632

Report Date:

03/08/12

**Method Blank Analysis Batch Quality Control** 

Analytical Method: Analytical Date:

97,8082 03/08/12 12:34

Analyst:

KΒ

Extraction Method: EPA 3540C Extraction Date: 03/07/12 15:50 Cleanup Method1: EPA 3665A Cleanup Date1: 03/08/12

Cleanup Method2: EPA 3660B Cleanup Date2: 03/08/12

MCP Polychlorinated Biphenyls - Westborough Lab for sample(s):         02         Batch:         WG521901-1           Aroclor 1016         ND         ug/kg         32.6            Aroclor 1221         ND         ug/kg         32.6            Aroclor 1232         ND         ug/kg         32.6            Aroclor 1242         ND         ug/kg         32.6            Aroclor 1248         ND         ug/kg         32.6            Aroclor 1254         ND         ug/kg         32.6            Aroclor 1260         ND         ug/kg         32.6	Parameter	Result	Qualifier Units	RL	MDL	
Aroclor 1221         ND         ug/kg         32.6            Aroclor 1232         ND         ug/kg         32.6            Aroclor 1242         ND         ug/kg         32.6            Aroclor 1248         ND         ug/kg         32.6            Aroclor 1254         ND         ug/kg         32.6	MCP Polychlorinated Biphenyls -	- Westborough La	ab for sample(s): 02	Batch: WG52	21901-1	
Aroclor 1232         ND         ug/kg         32.6            Aroclor 1242         ND         ug/kg         32.6            Aroclor 1248         ND         ug/kg         32.6            Aroclor 1254         ND         ug/kg         32.6	Aroclor 1016	ND	ug/kg	32.6		
Aroclor 1242         ND         ug/kg         32.6            Aroclor 1248         ND         ug/kg         32.6            Aroclor 1254         ND         ug/kg         32.6	Aroclor 1221	ND	ug/kg	32.6		
Aroclor 1248         ND         ug/kg         32.6            Aroclor 1254         ND         ug/kg         32.6	Aroclor 1232	ND	ug/kg	32.6		
Aroclor 1254 ND ug/kg 32.6	Aroclor 1242	ND	ug/kg	32.6		
	Aroclor 1248	ND	ug/kg	32.6		
Aroclor 1260 ND ug/kg 32.6	Aroclor 1254	ND	ug/kg	32.6		
	Aroclor 1260	ND	ug/kg	32.6		
Aroclor 1262 ND ug/kg 32.6	Aroclor 1262	ND	ug/kg	32.6		
Aroclor 1268 ND ug/kg 32.6	Aroclor 1268	ND	ug/kg	32.6		

			Acceptance	
Surrogate	%Recovery	Qualifier	Criteria	
2,4,5,6-Tetrachloro-m-xylene	81		30-150	
Decachlorobiphenyl	89		30-150	
2,4,5,6-Tetrachloro-m-xylene	77		30-150	
Decachlorobiphenyl	108		30-150	



# Lab Control Sample Analysis Batch Quality Control

**Project Name:** FMR. ENERGY INT. PARCEL

**Project Number:** 06318-520

Lab Number: L1203632

**Report Date:** 03/08/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Polychlorinated Biphenyls - Westborouç	gh Lab Associat	ed sample(s):	01,03,06-08	Batch:	WG521226-2	WG521226-3		
Aroclor 1016	49		57		40-140	15		30
Aroclor 1260	50		55		40-140	10		30

	LCS		LCSD		Acceptance	
Surrogate	%Recovery	Qual	%Recovery	Qual	Criteria	
2,4,5,6-Tetrachloro-m-xylene	69		77		30-150	
Decachlorobiphenyl	70		71		30-150	
2,4,5,6-Tetrachloro-m-xylene	70		73		30-150	
Decachlorobiphenyl	79		78		30-150	

MC	P Polychlorinated Biphenyls - Westborough	Lab Associate	ed sample(s):	02	Batch:	WG521901-2	WG521901-3		
	Aroclor 1016	82			84		40-140	2	30
	Aroclor 1260	89			94		40-140	5	30

	LCS		LCSD		Acceptance	
Surrogate	%Recovery	Qual	%Recovery	Qual	Criteria	
2,4,5,6-Tetrachloro-m-xylene	80		76		30-150	
Decachlorobiphenyl	87		85		30-150	
2,4,5,6-Tetrachloro-m-xylene	75		71		30-150	
Decachlorobiphenyl	93		87		30-150	



# INORGANICS & MISCELLANEOUS



Project Name: FMR. ENERGY INT. PARCEL Lab Number: L1203632

**SAMPLE RESULTS** 

Lab ID: L1203632-01 Date Collected: 03/02/12 10:25

Client ID: HA-204 S1 Date Received: 03/02/12 Sample Location: 495 TECH CTR Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab	)								
Solids, Total	90		%	0.10	NA	1	-	03/06/12 13:30	30,2540G	SD



Project Name: FMR. ENERGY INT. PARCEL Lab Number: L1203632

**SAMPLE RESULTS** 

 Lab ID:
 L1203632-02
 Date Collected:
 03/02/12 10:30

 Client ID:
 HA-204 S2
 Date Received:
 03/02/12

Sample Location: 495 TECH CTR Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - V	Westborough Lab	)								
Solids, Total	87		%	0.10	NA	1	-	03/06/12 13:30	30,2540G	SD



Project Name: FMR. ENERGY INT. PARCEL Lab Number: L1203632

**SAMPLE RESULTS** 

Lab ID: L1203632-03 Date Collected: 03/02/12 10:35

Client ID: HA-204 S3 Date Received: 03/02/12 Sample Location: 495 TECH CTR Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	78		%	0.10	NA	1	-	03/06/12 13:30	30,2540G	SD



Project Name: FMR. ENERGY INT. PARCEL Lab Number: L1203632

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

 Lab ID:
 L1203632-06
 Date Collected:
 03/02/12 10:55

 Client ID:
 HA-205 S1
 Date Received:
 03/02/12

Sample Location: 495 TECH CTR Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab	)								
Solids, Total	92		%	0.10	NA	1	-	03/06/12 13:30	30,2540G	SD



Project Name: FMR. ENERGY INT. PARCEL Lab Number: L1203632

**SAMPLE RESULTS** 

 Lab ID:
 L1203632-07
 Date Collected:
 03/02/12 11:05

 Client ID:
 HA-205 S2
 Date Received:
 03/02/12

Sample Location: 495 TECH CTR Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab									
Solids, Total	90		%	0.10	NA	1	-	03/06/12 13:30	30,2540G	SD



Project Name: FMR. ENERGY INT. PARCEL Lab Number: L1203632

**SAMPLE RESULTS** 

 Lab ID:
 L1203632-08
 Date Collected:
 03/02/12 11:10

 Client ID:
 HA-205 S3
 Date Received:
 03/02/12

Sample Location: 495 TECH CTR Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - V	Westborough Lab									
Solids, Total	87		%	0.10	NA	1	-	03/06/12 13:30	30,2540G	SD



Lab Duplicate Analysis
Batch Quality Control

Lab Number: **Project Name:** FMR. ENERGY INT. PARCEL L1203632

**Project Number:** Report Date: 03/08/12 06318-520

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Ass	sociated sample(s): 01-03,06-08	QC Batch ID: WG521647-1	QC Sample:	L120363	0-01 Clier	nt ID: DUP Sample
Solids, Total	94	94	%	0		20



Lab Number: L1203632

Project Name: FMR. ENERGY INT. PARCEL

**Project Number:** 06318-520 **Report Date:** 03/08/12

# **Sample Receipt and Container Information**

Were project specific reporting limits specified?

Reagent H2O Preserved Vials Frozen on: NA

**Cooler Information Custody Seal** 

Cooler

A Absent

Container Info	rmation			Temp			
Container ID	Container Type	Cooler	pН	deg C	Pres	Seal	Analysis(*)
L1203632-01A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	TS(7),MCP-8082-10- 3540C(365)
L1203632-02A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	TS(7),MCP-8082-10- 3540C(365)
L1203632-03A	Amber 120ml unpreserved	Α	N/A	2.8	Y	Absent	TS(7),MCP-8082-10- 3540C(365)
L1203632-04A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	HOLD(14)
L1203632-05A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	HOLD(14)
L1203632-06A	Amber 120ml unpreserved	Α	N/A	2.8	Y	Absent	TS(7),MCP-8082-10- 3540C(365)
L1203632-07A	Amber 120ml unpreserved	Α	N/A	2.8	Y	Absent	TS(7),MCP-8082-10- 3540C(365)
L1203632-08A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	TS(7),MCP-8082-10- 3540C(365)
L1203632-09A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	HOLD(14)
L1203632-10A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	HOLD(14)

Project Name:FMR. ENERGY INT. PARCELLab Number:L1203632Project Number:06318-520Report Date:03/08/12

#### **GLOSSARY**

#### **Acronyms**

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes
or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

 MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

#### **Footnotes**

- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method

#### **Terms**

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

#### Data Qualifiers

- A Spectra identified as "Aldol Condensation Product".
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

Report Format: Data Usability Report



Project Name:FMR. ENERGY INT. PARCELLab Number:L1203632Project Number:06318-520Report Date:03/08/12

#### **Data Qualifiers**

- ${f P}$  The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- $\boldsymbol{R}$  Analytical results are from sample re-analysis.
- **RE** Analytical results are from sample re-extraction.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Project Name:FMR. ENERGY INT. PARCELLab Number:L1203632Project Number:06318-520Report Date:03/08/12

#### REFERENCES

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

### **LIMITATION OF LIABILITIES**

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



# Certificate/Approval Program Summary

Last revised January 30, 2012 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

### Connecticut Department of Public Health Certificate/Lab ID: PH-0574. NELAP Accredited Solid Waste/Soil.

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. <a href="https://doi.org/10.2016/journal.org/10

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

#### Maine Department of Human Services Certificate/Lab ID: 2009024.

*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. <u>Organic Parameters</u>: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223D, 9222D. Organic Parameters: 608, 8081, 8082, 8330, 8151A, 624, 8260, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014A, 9040B, 9045C, 6010B, 7471A, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8330, 8151A, 8081A, 8082, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

#### Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.

Drinking Water (Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

Page 37 of 34l,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); 245.1, SM4500H,B, EPA 120.1,

SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B;Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. NELAP Accredited.

Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8151A.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050C, 9065,1311, 1312, 3005A, 3050B. Organic Parameters: SW-846 3540C, 3546, 3550B, 3580A, 3630C, 5030B, 5035, 8260B, 8270C, 8330, 8151A, 8015B, 8082, 8081A.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. NELAP Accredited.

Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 6020, 6020A, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, 3015, EPA 6010B, 6010C, 7196A, 3060A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8081B, 8082, 8082A, 8151A, 8330, NJ OQA-QAM-025 Rev.7, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C, 7196A, 3060A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3545, 3546, 3550B, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. NELAP Accredited.

Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-04-1-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 9010B, 9030B.. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: 1010, 1030, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8015B, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

North Carolina Department of the Environment and Natural Resources <u>Certificate/Lab ID</u>: 666. <u>Organic Parameters</u>: MA-EPH, MA-VPH.

Page 27:01:34 Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection <u>Certificate/Lab ID</u>: 68-03671. *NELAP Accredited. Drinking Water* (Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 1312, 200.7, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE. Organic Parameters: EPA 3510C, 3005A, 3630C, 5030B, 625, 624, 608, 8081A, 8081B, 8082, 802A, 8151A, 8260B, 8270C, 8270D, 8330)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 3060A, 6010B, 6010C, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3546, 3580A, 3630C, 5035, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260B, 8270C, 8270D, 8330)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. *NELAP Accredited via NY-DOH.*Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** <u>Certificate/Lab ID</u>: T104704476-09-1. *NELAP Accredited. Non-Potable Water* (<u>Inorganic Parameters</u>: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2<sup>-</sup> D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. *NELAP Accredited. Non-Potable Water* (Inorganic Parameters: EPA 3005A,3015,1312,6010B,6010C,SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X. Organic Parameters: EPA 8260B)

Solid & Hazardous Waste (Inorganic Parameters: EPA 3050B, 1311, 1312, 6010B, 6010C, 9030B, 9010B, 9012A, 9014. Organic Parameters: EPA 5035, 5030B, 8260B.)

Department of Defense, L-A-B Certificate/Lab ID: L2217.

Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 5220D, 5310C, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8270C, 8330A, 625, 8082, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9010, 9012A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8270C, 8330A/B-prep, 8082, 8081A, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:

**EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix, SO4 in a soil matrix.

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Form 3003

CANARY - Project Manager

WHITE - Laboratory

PINK - Haley & Aldrich Laboratory

Page 34 of 34

AUGUST 2008



#### ANALYTICAL REPORT

Lab Number: L1203636

Client: Haley & Aldrich, Inc.

465 Medford Street, Suite 2200 Charlestown, MA 02129-1400

ATTN: Cole Worthy Phone: (617) 886-7341

Project Name: FMR. ENERGY INT PARCEL

Project Number: 06318-520

Report Date: 03/08/12

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



 Project Name:
 FMR. ENERGY INT PARCEL

 Lab Number:
 L1203636

**Project Number:** 06318-520 **Report Date:** 03/08/12

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1203636-01	HA-206 S1	495 TECH CTR	03/02/12 11:28
L1203636-02	HA-206 S2	495 TECH CTR	03/02/12 11:32
L1203636-03	HA-206 S3	495 TECH CTR	03/02/12 11:40
L1203636-04	HA-206 S4	495 TECH CTR	03/02/12 11:45
L1203636-05	HA-206 S5	495 TECH CTR	03/02/12 11:50
L1203636-06	HA-207 S1	495 TECH CTR	03/02/12 11:55
L1203636-07	HA-207 S2	495 TECH CTR	03/02/12 12:00
L1203636-08	HA-207 S3	495 TECH CTR	03/02/12 12:10
L1203636-09	HA-207 S4	495 TECH CTR	03/02/12 12:20
L1203636-10	HA-207 S5	495 TECH CTR	03/02/12 12:30

Project Name: FMR. ENERGY INT PARCEL Lab Number: L1203636

**Project Number:** 06318-520 **Report Date:** 03/08/12

# **MADEP MCP Response Action Analytical Report Certification**

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An af	firmative response to questions A through F is required for "Presumptive Certainty" status	
Α	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status						
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO				
Н	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO				
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES				

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: FMR. ENERGY INT PARCEL Lab Number: L1203636

Project Number: 06318-520 Report Date: 03/08/12

#### **Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### MCP Related Narratives

Please contact Client Services at 800-624-9220 with any questions.

#### **PCBs**

L1203636-01 has elevated detection limits due to the dilution required by matrix interferences encountered during the concentration of the sample.

L1203636-06 has elevated detection limits due to the dilution required by the matrix interferences encountered during the concentration of the sample and the analytical dilution required by the target compounds present in the sample.

In reference to question G:

L1203636-06: One or more of the target analytes did not achieve the requested CAM reporting limits.



Project Name: FMR. ENERGY INT PARCEL Lab Number: L1203636

**Project Number:** 06318-520 **Report Date:** 03/08/12

## **Case Narrative (continued)**

In reference to question H:

The surrogate recoveries for L1203636-06 are below the acceptance criteria for 2,4,5,6-Tetrachloro-m-xylene and Decachlorobiphenyl (all at 0%) due to the dilution required to quantitate the sample. Re-extraction was not required; therefore, the results of the original analysis are reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

Title: Technical Director/Representative Date: 03/08/12

Michelle M. Morris

# **ORGANICS**



# **PCBS**



03/05/12

Cleanup Date1:

**Project Name:** Lab Number: FMR. ENERGY INT PARCEL L1203636

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: Date Collected: 03/02/12 11:28 L1203636-01

Client ID: HA-206 S1 Date Received: 03/02/12 Sample Location: 495 TECH CTR Field Prep:

Not Specified **Extraction Method: EPA 3540C** Matrix: Soil Analytical Method: 97,8082 **Extraction Date:** 03/03/12 01:35 Analytical Date: 03/05/12 15:10 Cleanup Method1: EPA 3665A

84% Percent Solids: Cleanup Method2: EPA 3660B

Cleanup Date2: 03/05/12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyl	s - Westborough Lab					
Aroclor 1016	ND		ug/kg	77.2		2
Aroclor 1221	ND		ug/kg	77.2		2
Aroclor 1232	ND		ug/kg	77.2		2
Aroclor 1242	ND		ug/kg	77.2		2
Aroclor 1248	ND		ug/kg	77.2		2
Aroclor 1262	ND		ug/kg	77.2		2
Aroclor 1268	ND		ug/kg	77.2		2

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,4,5,6-Tetrachloro-m-xylene	57		30-150	
Decachlorobiphenyl	59		30-150	
2,4,5,6-Tetrachloro-m-xylene	50		30-150	
Decachlorobiphenyl	63		30-150	



Analyst:

KΒ

Project Name: FMR. ENERGY INT PARCEL Lab Number: L1203636

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: Date Collected: 03/02/12 11:28

Client ID: HA-206 S1 Date Received: 03/02/12 Sample Location: 495 TECH CTR Field Prep: Not Speci

Not Specified Matrix: Soil **Extraction Method: EPA 3540C** Analytical Method: 97,8082 **Extraction Date:** 03/03/12 01:35 Analytical Date: 03/05/12 15:10 Cleanup Method1: EPA 3665A Analyst: KΒ Cleanup Date1: 03/05/12

Percent Solids: 84% Cleanup Method2: EPA 3660B Cleanup Date2: 03/05/12

Qualifier **Parameter** Result Units RLMDL **Dilution Factor** MCP Polychlorinated Biphenyls - Westborough Lab Aroclor 1254 1030 ug/kg 77.2 2 865 77.2 2 Aroclor 1260 ug/kg

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,4,5,6-Tetrachloro-m-xylene	57		30-150	
Decachlorobiphenyl	59		30-150	
2,4,5,6-Tetrachloro-m-xylene	50		30-150	
Decachlorobiphenyl	63		30-150	



Project Name: FMR. ENERGY INT PARCEL Lab Number: L1203636

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: L1203636-02 Date Collected: 03/02/12 11:32

Client ID: HA-206 S2 Date Received: 03/02/12 Sample Location: 495 TECH CTR Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 97,8082 Extraction Date: 03/03/12 01:35
Analytical Date: 03/05/12 15:22 Cleanup Method1: EPA 3665A

Analyst: KB Cleanup Date1: 03/05/12
Percent Solids: 83% Cleanup Method2: EPA 3660B
Cleanup Date2: 03/05/12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor		
MCP Polychlorinated Biphenyls - Westborough Lab								
Aroclor 1016	ND		ug/kg	38.7		1		
Aroclor 1221	ND		ug/kg	38.7		1		
Aroclor 1232	ND		ug/kg	38.7		1		
Aroclor 1242	ND		ug/kg	38.7		1		
Aroclor 1248	ND		ug/kg	38.7		1		
Aroclor 1254	ND		ug/kg	38.7		1		
Aroclor 1260	ND		ug/kg	38.7		1		
Aroclor 1262	ND		ug/kg	38.7		1		
Aroclor 1268	ND		ug/kg	38.7		1		

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,4,5,6-Tetrachloro-m-xylene	75		30-150	
Decachlorobiphenyl	76		30-150	
2,4,5,6-Tetrachloro-m-xylene	71		30-150	
Decachlorobiphenyl	92		30-150	



Project Name: FMR. ENERGY INT PARCEL Lab Number: L1203636

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: L1203636-03 Date Collected: 03/02/12 11:40

Client ID: HA-206 S3 Date Received: 03/02/12 Sample Location: 495 TECH CTR Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C

Analytical Method: 97,8082 Extraction Date: 03/03/12 01:35

Analytical Date: 03/05/12 15:35 Cleanup Method1: EPA 3665A

Analyst: KB Cleanup Date1: 03/05/12
Percent Solids: 87% Cleanup Method2: EPA 3660B
Cleanup Date2: 03/05/12

**Parameter** Result Qualifier Units RLMDL **Dilution Factor** MCP Polychlorinated Biphenyls - Westborough Lab Aroclor 1016 ND ug/kg 37.0 1 ND Aroclor 1221 37.0 1 ug/kg --Aroclor 1232 ND 1 ug/kg 37.0 --Aroclor 1242 ND ug/kg 37.0 1 1 Aroclor 1248 ND ug/kg 37.0 --ND 37.0 1 Aroclor 1254 ug/kg Aroclor 1260 ND ug/kg 37.0 1 Aroclor 1262 ND 37.0 1 ug/kg --Aroclor 1268 ND ug/kg 37.0 1 --

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,4,5,6-Tetrachloro-m-xylene	63		30-150	
Decachlorobiphenyl	68		30-150	
2,4,5,6-Tetrachloro-m-xylene	62		30-150	
Decachlorobiphenyl	71		30-150	



Project Name: FMR. ENERGY INT PARCEL Lab Number: L1203636

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: L1203636-06 D Date Collected: 03/02/12 11:55

Client ID: HA-207 S1 Date Received: 03/02/12 Sample Location: 495 TECH CTR Field Prep: Not Specified

**EPA 3540C** Matrix: Soil **Extraction Method:** Analytical Method: 97,8082 **Extraction Date:** 03/03/12 01:35 Analytical Date: 03/07/12 20:32 Cleanup Method1: EPA 3665A Analyst: KΒ Cleanup Date1: 03/05/12 96%

Percent Solids: 96% Cleanup Method2: EPA 3660B Cleanup Date2: 03/05/12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls	s - Westborough Lab					
Aroclor 1016	ND		ug/kg	338		10
Aroclor 1221	ND		ug/kg	338		10
Aroclor 1232	ND		ug/kg	338		10
Aroclor 1242	ND		ug/kg	338		10
Aroclor 1248	797		ug/kg	338		10
Aroclor 1262	ND		ug/kg	338		10
Aroclor 1268	ND		ug/kg	338		10

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,4,5,6-Tetrachloro-m-xylene	0	Q	30-150	
Decachlorobiphenyl	0	Q	30-150	
2,4,5,6-Tetrachloro-m-xylene	0	Q	30-150	
Decachlorobiphenyl	0	Q	30-150	



Project Name: FMR. ENERGY INT PARCEL Lab Number: L1203636

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: L1203636-06 D Date Collected: 03/02/12 11:55

Client ID: HA-207 S1 Date Received: 03/02/12 Sample Location: 495 TECH CTR Field Prep: Not Specified

Matrix: Soil **Extraction Method: EPA 3540C** Analytical Method: 97,8082 **Extraction Date:** 03/03/12 01:35 Analytical Date: 03/07/12 20:32 Cleanup Method1: EPA 3665A Analyst: KΒ Cleanup Date1: 03/05/12 96%

Percent Solids: 96% Cleanup Method2: EPA 3660B Cleanup Date2: 03/05/12

Qualifier **Parameter** Result Units RLMDL **Dilution Factor** MCP Polychlorinated Biphenyls - Westborough Lab Aroclor 1254 1740 ug/kg 338 10 571 10 Aroclor 1260 ug/kg 338

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,4,5,6-Tetrachloro-m-xylene	0	Q	30-150	
Decachlorobiphenyl	0	Q	30-150	
2,4,5,6-Tetrachloro-m-xylene	0	Q	30-150	
Decachlorobiphenyl	0	Q	30-150	



Project Name: FMR. ENERGY INT PARCEL Lab Number: L1203636

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: L1203636-07 Date Collected: 03/02/12 12:00

Client ID: HA-207 S2 Date Received: 03/02/12 Sample Location: 495 TECH CTR Field Prep: Not Specification 

Output

Date Received: 03/02/12 

Field Prep: Not Specification 

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Date Received: 03/02/12 

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Sample Location:495 TECH CTRField Prep:Not SpecifiedMatrix:SoilExtraction Method:EPA 3540CAnalytical Method:97,8082Extraction Date:03/03/12 01:35Analytical Date:03/05/12 15:59Cleanup Method1:EPA 3665A

Analyst: KB Cleanup Date1: 03/05/12
Percent Solids: 77% Cleanup Method2: EPA 3660B
Cleanup Date2: 03/05/12

**Parameter** Result Qualifier Units RLMDL **Dilution Factor** MCP Polychlorinated Biphenyls - Westborough Lab Aroclor 1016 ND ug/kg 42.2 1 ND Aroclor 1221 42.2 1 ug/kg --ND 42.2 1 Aroclor 1232 ug/kg --Aroclor 1242 ND ug/kg 42.2 1 1 Aroclor 1248 ND ug/kg 42.2 --ND 42.2 1 Aroclor 1254 ug/kg Aroclor 1260 ND ug/kg 42.2 1 Aroclor 1262 ND 42.2 1 ug/kg --Aroclor 1268 ND ug/kg 42.2 1 --

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,4,5,6-Tetrachloro-m-xylene	63		30-150	
Decachlorobiphenyl	70		30-150	
2,4,5,6-Tetrachloro-m-xylene	63		30-150	
Decachlorobiphenyl	77		30-150	



**Project Name:** Lab Number: FMR. ENERGY INT PARCEL L1203636

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: Date Collected: 03/02/12 12:10 L1203636-08

Client ID: HA-207 S3 Date Received: 03/02/12 Sample Location: 495 TECH CTR Field Prep: Not Specified

**Extraction Method: EPA 3540C** Matrix: Soil Analytical Method: 97,8082 **Extraction Date:** 03/03/12 01:35 Analytical Date: 03/05/12 17:01 Cleanup Method1: EPA 3665A Analyst: KΒ Cleanup Date1: 03/05/12

75% Percent Solids: Cleanup Method2: EPA 3660B

Cleanup Date2: 03/05/12

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>
MCP Polychlorinated Biphenyls	s - Westborough Lab					
Aroclor 1016	ND		ug/kg	43.6		1
Aroclor 1221	ND		ug/kg	43.6		1
Aroclor 1232	ND		ug/kg	43.6		1
Aroclor 1242	ND		ug/kg	43.6		1
Aroclor 1248	ND		ug/kg	43.6		1
Aroclor 1254	ND		ug/kg	43.6		1
Aroclor 1260	ND		ug/kg	43.6		1
Aroclor 1262	ND		ug/kg	43.6		1
Aroclor 1268	ND		ug/kg	43.6		1

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
2,4,5,6-Tetrachloro-m-xylene	76		30-150			
Decachlorobiphenyl	78		30-150			
2,4,5,6-Tetrachloro-m-xylene	73		30-150			
Decachlorobiphenyl	92		30-150			



**Project Name:** FMR. ENERGY INT PARCEL

**Project Number:** 06318-520 Lab Number:

Report Date:

L1203636

03/08/12

**Method Blank Analysis Batch Quality Control** 

Analytical Method: Analytical Date:

97,8082 03/05/12 16:12

Analyst:

KΒ

Extraction Method: EPA 3540C Extraction Date:

03/03/12 01:35

Cleanup Date1: Cleanup Method2: EPA 3660B Cleanup Date2:

Cleanup Method1: EPA 3665A 03/05/12 03/05/12

Parameter	Result	Qualifier	Units	RL	MDL
MCP Polychlorinated Biphenyls - \	Westborough	Lab for san	nple(s): 01-0	3,06-08 Batch	n: WG521226-1
Aroclor 1016	ND		ug/kg	31.5	
Aroclor 1221	ND		ug/kg	31.5	
Aroclor 1232	ND		ug/kg	31.5	
Aroclor 1242	ND		ug/kg	31.5	
Aroclor 1248	ND		ug/kg	31.5	
Aroclor 1254	ND		ug/kg	31.5	
Aroclor 1260	ND		ug/kg	31.5	
Aroclor 1262	ND		ug/kg	31.5	
Aroclor 1268	ND		ug/kg	31.5	

		Acceptance					
Surrogate	%Recovery	Qualifier	Criteria				
0.4507	00		00.450				
2,4,5,6-Tetrachloro-m-xylene	66		30-150				
Decachlorobiphenyl	74		30-150				
2,4,5,6-Tetrachloro-m-xylene	68		30-150				
Decachlorobiphenyl	82		30-150				



# Lab Control Sample Analysis Batch Quality Control

**Project Name:** FMR. ENERGY INT PARCEL

**Project Number:** 06318-520 Lab Number: L1203636

Report Date: 03/08/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Polychlorinated Biphenyls - Westboroug	gh Lab Associat	ed sample(s):	01-03,06-08	Batch:	WG521226-2	WG521226-3		
Aroclor 1016	49		57		40-140	15		30
Aroclor 1260	50		55		40-140	10		30

	LCS		LCSD		Acceptance		
Surrogate	%Recovery	Qual	%Recovery	Qual	Criteria		
2,4,5,6-Tetrachloro-m-xylene	69		77		30-150		
Decachlorobiphenyl	70		71		30-150		
2,4,5,6-Tetrachloro-m-xylene	70		73		30-150		
Decachlorobiphenyl	79		78		30-150		



# INORGANICS & MISCELLANEOUS



Project Name: FMR. ENERGY INT PARCEL Lab Number: L1203636

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

 Lab ID:
 L1203636-01
 Date Collected:
 03/02/12 11:28

 Client ID:
 HA-206 S1
 Date Received:
 03/02/12

Sample Location: 495 TECH CTR Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab	)								
Solids, Total	84		%	0.10	NA	1	-	03/06/12 13:30	30,2540G	SD



Project Name: FMR. ENERGY INT PARCEL Lab Number: L1203636

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

 Lab ID:
 L1203636-02
 Date Collected:
 03/02/12 11:32

 Client ID:
 HA-206 S2
 Date Received:
 03/02/12

Sample Location: 495 TECH CTR Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	83		%	0.10	NA	1	-	03/06/12 13:30	30,2540G	SD



Project Name: FMR. ENERGY INT PARCEL Lab Number: L1203636

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: L1203636-03 Date Collected: 03/02/12 11:40

Client ID: HA-206 S3 Date Received: 03/02/12 Sample Location: 495 TECH CTR Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab	)								
Solids, Total	87		%	0.10	NA	1	-	03/06/12 13:30	30,2540G	SD



Project Name: FMR. ENERGY INT PARCEL Lab Number: L1203636

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

 Lab ID:
 L1203636-06
 Date Collected:
 03/02/12 11:55

 Client ID:
 HA-207 S1
 Date Received:
 03/02/12

Sample Location: 495 TECH CTR Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - V	Vestborough Lab									
Solids, Total	96		%	0.10	NA	1	-	03/06/12 13:30	30,2540G	SD



Project Name: FMR. ENERGY INT PARCEL Lab Number: L1203636

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

 Lab ID:
 L1203636-07
 Date Collected:
 03/02/12 12:00

 Client ID:
 HA-207 S2
 Date Received:
 03/02/12

Client ID: HA-207 S2 Date Received: 03/02/12 Sample Location: 495 TECH CTR Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab	)								
Solids, Total	77		%	0.10	NA	1	-	03/06/12 13:30	30,2540G	SD



Project Name: FMR. ENERGY INT PARCEL Lab Number: L1203636

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

 Lab ID:
 L1203636-08
 Date Collected:
 03/02/12 12:10

 Client ID:
 HA-207 S3
 Date Received:
 03/02/12

Sample Location: 495 TECH CTR Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab									
Solids, Total	75		%	0.10	NA	1	-	03/06/12 13:30	30,2540G	SD



Lab Duplicate Analysis
Batch Quality Control

Lab Number: **Project Name:** FMR. ENERGY INT PARCEL L1203636 **Project Number:** Report Date: 03/08/12 06318-520

Native Sample **Parameter Duplicate Sample** Units **RPD** Qual **RPD Limits** General Chemistry - Westborough Lab Associated sample(s): 01-03,06-08 QC Batch ID: WG521647-1 QC Sample: L1203630-01 Client ID: DUP Sample Solids, Total 94 94 % 20 0



**Lab Number:** L1203636

Project Name: FMR. ENERGY INT PARCEL

Project Number: 06318-520 Report Date: 03/08/12

# **Sample Receipt and Container Information**

Were project specific reporting limits specified?

Reagent H2O Preserved Vials Frozen on: NA

**Cooler Information Custody Seal** 

Cooler

A Absent

Container Info	rmation		Temp				
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1203636-01A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	TS(7),MCP-8082-10- 3540C(365)
L1203636-02A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	TS(7),MCP-8082-10- 3540C(365)
L1203636-03A	Amber 120ml unpreserved	Α	N/A	2.8	Y	Absent	TS(7),MCP-8082-10- 3540C(365)
L1203636-04A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	HOLD(14)
L1203636-05A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	HOLD(14)
L1203636-06A	Amber 120ml unpreserved	Α	N/A	2.8	Y	Absent	TS(7),MCP-8082-10- 3540C(365)
L1203636-07A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	TS(7),MCP-8082-10- 3540C(365)
L1203636-08A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	TS(7),MCP-8082-10- 3540C(365)
L1203636-09A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	HOLD(14)
L1203636-10A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	HOLD(14)

# **Container Comments**

L1203636-04A

L1203636-05A

L1203636-09A

L1203636-10A



Project Name:FMR. ENERGY INT PARCELLab Number:L1203636Project Number:06318-520Report Date:03/08/12

#### **GLOSSARY**

#### **Acronyms**

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes
or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

 MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

#### **Footnotes**

- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method

#### **Terms**

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

#### Data Qualifiers

- A Spectra identified as "Aldol Condensation Product".
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

Report Format: Data Usability Report



Project Name:FMR. ENERGY INT PARCELLab Number:L1203636Project Number:06318-520Report Date:03/08/12

#### **Data Qualifiers**

- ${f P}$  The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- $\boldsymbol{R}$  Analytical results are from sample re-analysis.
- **RE** Analytical results are from sample re-extraction.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Project Name:FMR. ENERGY INT PARCELLab Number:L1203636Project Number:06318-520Report Date:03/08/12

#### REFERENCES

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

### **LIMITATION OF LIABILITIES**

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



# **Certificate/Approval Program Summary**

Last revised January 30, 2012 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

## Connecticut Department of Public Health Certificate/Lab ID: PH-0574. NELAP Accredited Solid Waste/Soil.

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. <a href="https://doi.org/10.2016/journal.org/10

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

### Maine Department of Human Services Certificate/Lab ID: 2009024.

*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. <u>Organic Parameters</u>: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223D, 9222D. Organic Parameters: 608, 8081, 8082, 8330, 8151A, 624, 8260, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014A, 9040B, 9045C, 6010B, 7471A, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8330, 8151A, 8081A, 8082, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

#### Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.

Drinking Water (Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

Page 30 of 3Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); 245.1, SM4500H,B, EPA 120.1,

SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B;Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. NELAP Accredited.

Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8151A.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050C, 9065,1311, 1312, 3005A, 3050B. Organic Parameters: SW-846 3540C, 3546, 3550B, 3580A, 3630C, 5030B, 5035, 8260B, 8270C, 8330, 8151A, 8015B, 8082, 8081A.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. NELAP Accredited.

Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 6020, 6020A, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, 3015, EPA 6010B, 6010C, 7196A, 3060A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8081B, 8082, 8082A, 8151A, 8330, NJ OQA-QAM-025 Rev.7, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C, 7196A, 3060A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3545, 3546, 3550B, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. NELAP Accredited.

*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-04-1-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 9010B, 9030B.. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: 1010, 1030, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8015B, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

North Carolina Department of the Environment and Natural Resources <u>Certificate/Lab ID</u>: 666. <u>Organic Parameters</u>: MA-EPH, MA-VPH.

Page Brinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID: 68-03671. NELAP Accredited. Drinking Water (Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 1312, 200.7, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE. Organic Parameters: EPA 3510C, 3005A, 3630C, 5030B, 625, 624, 608, 8081A, 8081B, 8082, 802A, 8151A, 8260B, 8270C, 8270D, 8330)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 3060A, 6010B, 6010C, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3546, 3580A, 3630C, 5035, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260B, 8270C, 8270D, 8330)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. NELAP Accredited via NY-DOH. Refer to MA-DEP Certificate for Potable and Non-Potable Water. Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commisson on Environmental Quality Certificate/Lab ID: T104704476-09-1. NELAP Accredited. Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2<sup>-</sup> D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. NELAP Accredited. Non-Potable Water (Inorganic Parameters: EPA 3005A,3015,1312,6010B,6010C,SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X. Organic Parameters: EPA 8260B)

Solid & Hazardous Waste (Inorganic Parameters: EPA 3050B, 1311, 1312, 6010B, 6010C, 9030B, 9010B, 9012A, 9014, Organic Parameters: EPA 5035, 5030B, 8260B.)

Department of Defense, L-A-B Certificate/Lab ID: L2217.

Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 5220D, 5310C, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8270C, 8330A, 625, 8082, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9010, 9012A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8270C, 8330A/B-prep, 8082, 8081A, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:

EPA 8260B: Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. EPA 8330A: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625**: 4-Chloroaniline, 4-Methylphenol. Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix, SO4 in a soil matrix.

Form 3003

WHITE - Laboratory

CANARY - Project Manager

PINK - Haley & Aldrich Laboratory



#### ANALYTICAL REPORT

Lab Number: L1203638

Client: Haley & Aldrich, Inc.

465 Medford Street, Suite 2200 Charlestown, MA 02129-1400

ATTN: Cole Worthy Phone: (617) 886-7341

Project Name: FMR. ENERGY INT PARCEL

Project Number: 06318-520

Report Date: 03/08/12

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Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



**Project Name:** FMR. ENERGY INT PARCEL **Lab Number:** L1203638

**Project Number:** 06318-520 **Report Date:** 03/08/12

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1203638-01	HA-208 S1	495 TECH CTR	03/02/12 12:40
L1203638-02	HA-208 S2	495 TECH CTR	03/02/12 12:45
L1203638-03	HA-208 S3	495 TECH CTR	03/02/12 12:55
L1203638-04	HA-208 S4	495 TECH CTR	03/02/12 13:05
L1203638-05	HA-208 S5	495 TECH CTR	03/02/12 13:15

Project Name: FMR. ENERGY INT PARCEL Lab Number: L1203638

**Project Number:** 06318-520 **Report Date:** 03/08/12

# **MADEP MCP Response Action Analytical Report Certification**

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status						
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO				
Н	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO				
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES				

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: FMR. ENERGY INT PARCEL Lab Number: L1203638

#### **Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

### MCP Related Narratives

Please contact Client Services at 800-624-9220 with any questions.

## **PCBs**

L1203638-01 has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

In reference to question G:

L1203638-01: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The surrogate recoveries for L1203638-01 are below the acceptance criteria for 2,4,5,6-Tetrachloro-m-xylene and Decachlorobiphenyl (all at 0%) due to the dilution required to quantitate the sample. Re-extraction was not



Project Name: FMR. ENERGY INT PARCEL Lab Number: L1203638

**Project Number:** 06318-520 **Report Date:** 03/08/12

**Case Narrative (continued)** 

required; therefore, the results of the original analysis are reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

Title: Technical Director/Representative Date: 03/08/12

Michelle M. Morris

# **ORGANICS**



# **PCBS**



Project Name: FMR. ENERGY INT PARCEL Lab Number: L1203638

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: L1203638-01 D Date Collected: 03/02/12 12:40

Client ID: HA-208 S1 Date Received: 03/02/12 Sample Location: 495 TECH CTR Field Prep: Not Specified

Matrix: Soil **Extraction Method: EPA 3540C** Analytical Method: 97,8082 **Extraction Date:** 03/03/12 01:35 Analytical Date: 03/07/12 20:45 Cleanup Method1: **EPA 3665A** Analyst: ΚB Cleanup Date1: 03/05/12

Percent Solids: 87% Cleanup Method2: EPA 3660B Cleanup Date2: 03/05/12

Qualifier **Parameter** Result Units RLMDL **Dilution Factor** MCP Polychlorinated Biphenyls - Westborough Lab Aroclor 1016 ND ug/kg 1830 50 ND Aroclor 1221 1830 50 ug/kg --Aroclor 1232 ND 1830 50 ug/kg --ND Aroclor 1242 ug/kg 1830 50 18900 50 Aroclor 1254 ug/kg 1830 --Aroclor 1262 ND 1830 50 ug/kg

ug/kg

1830

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	0	Q	30-150
Decachlorobiphenyl	0	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	0	Q	30-150
Decachlorobiphenyl	0	Q	30-150

ND



50

Aroclor 1268

Project Name:FMR. ENERGY INT PARCELLab Number:L1203638

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: L1203638-01 D Date Collected: 03/02/12 12:40

Client ID: HA-208 S1 Date Received: 03/02/12 Sample Location: 495 TECH CTR Field Prep: Not Specified

**Extraction Method: EPA 3540C** Matrix: Soil Analytical Method: 97,8082 **Extraction Date:** 03/03/12 01:35 Analytical Date: 03/07/12 20:45 Cleanup Method1: EPA 3665A Analyst: KΒ Cleanup Date1: 03/05/12

Percent Solids: 87% Cleanup Method2: EPA 3660B Cleanup Date2: 03/05/12

Oleanup Bates. 03/03/12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls	s - Westborough Lab					
Aroclor 1248	14000		ug/kg	1830		50
Aroclor 1260	5600		ug/kg	1830		50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	0	Q	30-150
Decachlorobiphenyl	0	Q	30-150
2,4,5,6-Tetrachloro-m-xylene	0	Q	30-150
Decachlorobiphenyl	0	Q	30-150



Project Name:FMR. ENERGY INT PARCELLab Number:L1203638

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: L1203638-02 Date Collected: 03/02/12 12:45

Client ID: HA-208 S2 Date Received: 03/02/12 Sample Location: 495 TECH CTR Field Prep: Not Specification 

Output

Date Received: 03/02/12 

Field Prep: Not Specification 

Output

Date Received: 03/02/12 

Output

Date Received: 03/02/12 

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Date Received: 03/02/12 

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Output

Date Re

Sample Location:495 TECH CTRField Prep:Not SpecifiedMatrix:SoilExtraction Method:EPA 3540CAnalytical Method:97,8082Extraction Date:03/03/12 01:35Analytical Date:03/05/12 17:26Cleanup Method1:EPA 3665A

Analyst: KB Cleanup Date1: 03/05/12
Percent Solids: 83% Cleanup Method2: EPA 3660B

Cleanup Date2: 03/05/12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls	- Westborough Lab					
Aroclor 1016	ND		ug/kg	39.8		1
Aroclor 1221	ND		ug/kg	39.8		1
Aroclor 1232	ND		ug/kg	39.8		1
Aroclor 1242	ND		ug/kg	39.8		1
Aroclor 1248	ND		ug/kg	39.8		1
Aroclor 1254	ND		ug/kg	39.8		1
Aroclor 1260	ND		ug/kg	39.8		1
Aroclor 1262	ND		ug/kg	39.8		1
Aroclor 1268	ND		ug/kg	39.8		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,4,5,6-Tetrachloro-m-xylene	60		30-150	
Decachlorobiphenyl	64		30-150	
2,4,5,6-Tetrachloro-m-xylene	60		30-150	
Decachlorobiphenyl	80		30-150	



Project Name: FMR. ENERGY INT PARCEL Lab Number: L1203638

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: L1203638-03 Date Collected: 03/02/12 12:55

Client ID: HA-208 S3 Date Received: 03/02/12 Sample Location: 495 TECH CTR Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3540C

Analytical Method: 97,8082 Extraction Date: 03/03/12 14:50 Cleanup Method1: EPA 3665A

Analyst: KB Cleanup Date1: 03/05/12
Percent Solids: 60% Cleanup Method2: EPA 3660B
Cleanup Date2: 03/05/12

**Parameter** Result Qualifier Units RL MDL **Dilution Factor** MCP Polychlorinated Biphenyls - Westborough Lab Aroclor 1016 ND ug/kg 53.9 1 ND Aroclor 1221 53.9 1 ug/kg --Aroclor 1232 ND 1 ug/kg 53.9 --Aroclor 1242 ND ug/kg 53.9 1 ND 1 Aroclor 1248 ug/kg 53.9 --ND 1 Aroclor 1254 ug/kg 53.9 Aroclor 1260 ND ug/kg 53.9 1 Aroclor 1262 ND 53.9 1 ug/kg --Aroclor 1268 ND ug/kg 53.9 1 --

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2.4,5,6-Tetrachloro-m-xylene	63		30-150	
Decachlorobiphenyl	59		30-150	
2,4,5,6-Tetrachloro-m-xylene	69		30-150	
Decachlorobiphenyl	67		30-150	



**Project Name:** FMR. ENERGY INT PARCEL

**Project Number:** 06318-520 Lab Number: **Report Date:** 

L1203638 03/08/12

**Method Blank Analysis Batch Quality Control** 

Analytical Method: 97,8082

03/05/12 16:06

KΒ

Analyst:

Analytical Date:

Extraction Method: EPA 3540C Extraction Date:

03/03/12 00:20

Cleanup Method1: EPA 3665A

Cleanup Date1: Cleanup Method2: EPA 3660B

03/05/12

Cleanup Date2:

03/05/12

Parameter	Result Qualif		Units	RL	MDL
MCP Polychlorinated Biphenyls	- Westborough	Lab for sam	ple(s): 03	Batch: WG52	21225-1
Aroclor 1016	ND		ug/kg	33.3	<del></del>
Aroclor 1221	ND		ug/kg	33.3	
Aroclor 1232	ND		ug/kg	33.3	
Aroclor 1242	ND		ug/kg	33.3	
Aroclor 1248	ND		ug/kg	33.3	
Aroclor 1254	ND		ug/kg	33.3	
Aroclor 1260	ND		ug/kg	33.3	
Aroclor 1262	ND		ug/kg	33.3	
Aroclor 1268	ND		ug/kg	33.3	

	Acceptance					
Surrogate	%Recovery	Qualifier	Criteria			
2,4,5,6-Tetrachloro-m-xylene	89		30-150			
Decachlorobiphenyl	67		30-150			
2,4,5,6-Tetrachloro-m-xylene	90		30-150			
Decachlorobiphenyl	74		30-150			



**Project Name:** FMR. ENERGY INT PARCEL

**Project Number:** 06318-520 Lab Number: **Report Date:** 

L1203638 03/08/12

**Method Blank Analysis Batch Quality Control** 

Analytical Method: 97,8082

Analytical Date: Analyst:

03/05/12 16:12 KΒ

Extraction Method: EPA 3540C

Extraction Date:

03/03/12 01:35 Cleanup Method1: EPA 3665A

Cleanup Date1: Cleanup Method2: EPA 3660B

03/05/12

Cleanup Date2:

03/05/12

Parameter	Result Qua	lifier Units	RL	MDL
MCP Polychlorinated Biphe	enyls - Westborough Lab f	or sample(s): 01-02	Batch:	WG521226-1
Aroclor 1016	ND	ug/kg	31.5	
Aroclor 1221	ND	ug/kg	31.5	
Aroclor 1232	ND	ug/kg	31.5	
Aroclor 1242	ND	ug/kg	31.5	
Aroclor 1248	ND	ug/kg	31.5	
Aroclor 1254	ND	ug/kg	31.5	
Aroclor 1260	ND	ug/kg	31.5	
Aroclor 1262	ND	ug/kg	31.5	
Aroclor 1268	ND	ug/kg	31.5	

	Acceptance					
Surrogate	%Recovery	Qualifier	Criteria			
2,4,5,6-Tetrachloro-m-xylene	66		30-150			
Decachlorobiphenyl	74		30-150			
2,4,5,6-Tetrachloro-m-xylene	68		30-150			
Decachlorobiphenyl	82		30-150			



## Lab Control Sample Analysis Batch Quality Control

**Project Name:** FMR. ENERGY INT PARCEL

**Project Number:** 06318-520

Lab Number: L1203638

**Report Date:** 03/08/12

<u>Param</u>	eter	LCS %Recovery	Qual		CSD covery	% Qual	Recovery Limits	RPD	Qual	RPD Limits
MCP F	Polychlorinated Biphenyls - Westboroug	h Lab Associate	ed sample(s):	: 03	Batch:	WG521225-2	WG521225-3			
Aroo	clor 1016	75			77		40-140	3		30
Aroc	clor 1260	71			72		40-140	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
- Carrogate	7011COO VC1 y	Quui	7011COOVC1 y	Quui		
2,4,5,6-Tetrachloro-m-xylene	85		91		30-150	
Decachlorobiphenyl	71		79		30-150	
2,4,5,6-Tetrachloro-m-xylene	79		85		30-150	
Decachlorobiphenyl	73		81		30-150	

MC	P Polychlorinated Biphenyls - Westborough	Lab Associated sample	e(s): 01-02 Batch:	WG521226-2 WG521226	-3	
	Aroclor 1016	49	57	40-140	15	30
	Aroclor 1260	50	55	40-140	10	30

	LCS		LCSD		Acceptance	
Surrogate	%Recovery	Qual	%Recovery	Qual	Criteria	
2,4,5,6-Tetrachloro-m-xylene	69		77		30-150	
Decachlorobiphenyl	70		71		30-150	
2,4,5,6-Tetrachloro-m-xylene	70		73		30-150	
Decachlorobiphenyl	79		78		30-150	



# INORGANICS & MISCELLANEOUS



Project Name: FMR. ENERGY INT PARCEL Lab Number: L1203638

**SAMPLE RESULTS** 

Lab ID: L1203638-01 Date Collected: 03/02/12 12:40

Client ID: HA-208 S1 Date Received: 03/02/12 Sample Location: 495 TECH CTR Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	87		%	0.10	NA	1	-	03/05/12 16:18	30,2540G	SD



Project Name: FMR. ENERGY INT PARCEL Lab Number: L1203638

**SAMPLE RESULTS** 

 Lab ID:
 L1203638-02
 Date Collected:
 03/02/12 12:45

 Client ID:
 HA-208 S2
 Date Received:
 03/02/12

Sample Location: 495 TECH CTR Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab	)								
Solids, Total	83		%	0.10	NA	1	-	03/05/12 16:18	30,2540G	SD



Project Name: FMR. ENERGY INT PARCEL Lab Number: L1203638

**SAMPLE RESULTS** 

Lab ID: L1203638-03 Date Collected: 03/02/12 12:55

Client ID: HA-208 S3 Date Received: 03/02/12 Sample Location: 495 TECH CTR Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab	)								
Solids, Total	60		%	0.10	NA	1	-	03/05/12 16:18	30,2540G	SD



Lab Duplicate Analysis
Batch Quality Control

Lab Number: **Project Name:** FMR. ENERGY INT PARCEL L1203638

**Project Number:** Report Date: 03/08/12 06318-520

Parameter	Native Sam	ple Duplicate Samp	ole Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab	Associated sample(s): 01-03	QC Batch ID: WG521484-1	QC Sample: L	1203555-02	Client ID:	DUP Sample
Solids, Total	85	83	%	2		20



Lab Number: L1203638

Project Name: FMR. ENERGY INT PARCEL

**Project Number:** 06318-520 **Report Date:** 03/08/12

## **Sample Receipt and Container Information**

Were project specific reporting limits specified?

Reagent H2O Preserved Vials Frozen on: NA

**Cooler Information Custody Seal** 

Cooler

A Absent

Container Info	rmation			Temp			
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1203638-01A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	TS(7),MCP-8082-10- 3540C(365)
L1203638-02A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	TS(7),MCP-8082-10- 3540C(365)
L1203638-03A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	TS(7),MCP-8082-10- 3540C(365)
L1203638-04A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	HOLD(14)
L1203638-05A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	HOLD(14)

## **Container Comments**

L1203638-04A

L1203638-05A



Project Name:FMR. ENERGY INT PARCELLab Number:L1203638Project Number:06318-520Report Date:03/08/12

#### **GLOSSARY**

### Acronyms

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes
or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

 MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

 Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

#### **Footnotes**

- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method

#### **Terms**

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### Data Qualifiers

- A Spectra identified as "Aldol Condensation Product".
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

Report Format: Data Usability Report



Project Name:FMR. ENERGY INT PARCELLab Number:L1203638Project Number:06318-520Report Date:03/08/12

#### **Data Qualifiers**

- P The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- $\boldsymbol{R}$  Analytical results are from sample re-analysis.
- **RE** Analytical results are from sample re-extraction.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Project Name:FMR. ENERGY INT PARCELLab Number:L1203638Project Number:06318-520Report Date:03/08/12

#### REFERENCES

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## **LIMITATION OF LIABILITIES**

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## **Certificate/Approval Program Summary**

Last revised January 30, 2012 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

## Connecticut Department of Public Health Certificate/Lab ID: PH-0574. NELAP Accredited Solid Waste/Soil.

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. <a href="https://doi.org/10.2016/journal.org/10

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

### Maine Department of Human Services Certificate/Lab ID: 2009024.

*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. <u>Organic Parameters</u>: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223D, 9222D. Organic Parameters: 608, 8081, 8082, 8330, 8151A, 624, 8260, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014A, 9040B, 9045C, 6010B, 7471A, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8330, 8151A, 8081A, 8082, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

### Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.

Drinking Water (Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

Page 24 of 2 Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: 2 Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1,

SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B;Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. NELAP Accredited.

Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8151A.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050C, 9065,1311, 1312, 3005A, 3050B. Organic Parameters: SW-846 3540C, 3546, 3550B, 3580A, 3630C, 5030B, 5035, 8260B, 8270C, 8330, 8151A, 8015B, 8082, 8081A.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. NELAP Accredited.

Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 6020, 6020A, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, 3015, EPA 6010B, 6010C, 7196A, 3060A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8081B, 8082, 8082A, 8151A, 8330, NJ OQA-QAM-025 Rev.7, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C, 7196A, 3060A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3545, 3546, 3550B, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. NELAP Accredited.

Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-04-1-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 9010B, 9030B.. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: 1010, 1030, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8015B, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

North Carolina Department of the Environment and Natural Resources <u>Certificate/Lab ID</u>: 666. <u>Organic Parameters</u>: MA-EPH, MA-VPH.

Page 25/inking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection <u>Certificate/Lab ID</u>: 68-03671. *NELAP Accredited. Drinking Water* (Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 1312, 200.7, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE. Organic Parameters: EPA 3510C, 3005A, 3630C, 5030B, 625, 624, 608, 8081A, 8081B, 8082, 802A, 8151A, 8260B, 8270C, 8270D, 8330)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 3060A, 6010B, 6010C, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3546, 3580A, 3630C, 5035, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260B, 8270C, 8270D, 8330)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. *NELAP Accredited via NY-DOH.*Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** <u>Certificate/Lab ID</u>: T104704476-09-1. *NELAP Accredited. Non-Potable Water* (<u>Inorganic Parameters</u>: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2<sup>-</sup> D, 510C, 5210B, 5220D, 5310C, 5540C. <u>Organic Parameters</u>: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. *NELAP Accredited. Non-Potable Water* (Inorganic Parameters: EPA 3005A,3015,1312,6010B,6010C,SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X. Organic Parameters: EPA 8260B)

Solid & Hazardous Waste (Inorganic Parameters: EPA 3050B, 1311, 1312, 6010B, 6010C, 9030B, 9010B, 9012A, 9014. Organic Parameters: EPA 5035, 5030B, 8260B.)

Department of Defense, L-A-B Certificate/Lab ID: L2217.

Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 5220D, 5310C, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8270C, 8330A, 625, 8082, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9010, 9012A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8270C, 8330A/B-prep, 8082, 8081A, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:

**EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix, SO4 in a soil matrix.

Form 3003

WHITE - Laboratory

CANARY - Project Manager

PINK - Haley & Aldrich Laboratory

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AUGUST 2008

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### ANALYTICAL REPORT

Lab Number: L1203640

Client: Haley & Aldrich, Inc.

465 Medford Street, Suite 2200 Charlestown, MA 02129-1400

ATTN: Cole Worthy
Phone: (617) 886-7341

Project Name: FMR. ENERGY INT. PARCEL

Project Number: 06318-520

Report Date: 03/08/12

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name:FMR. ENERGY INT. PARCELLab Number:L1203640

**Project Number:** 06318-520 **Report Date:** 03/08/12

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1203640-01	HA-201 S1	495 TECH CTR.	03/02/12 08:10
L1203640-02	HA-201 S2	495 TECH CTR.	03/02/12 08:20
L1203640-03	HA-201 S3	495 TECH CTR.	03/02/12 08:25
L1203640-04	HA-201 S4	495 TECH CTR.	03/02/12 08:30
L1203640-05	HA-201 S5	495 TECH CTR.	03/02/12 08:35
L1203640-06	HA-201 S1B	495 TECH CTR.	03/02/12 08:15

Project Name: FMR. ENERGY INT. PARCEL Lab Number: L1203640

**Project Number:** 06318-520 **Report Date:** 03/08/12

## **MADEP MCP Response Action Analytical Report Certification**

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An af	firmative response to questions A through F is required for "Presumptive Certainty" status	
Α	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A re	sponse to questions G, H and I is required for "Presumptive Certainty" status	
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
Н	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name:FMR. ENERGY INT. PARCELLab Number:L1203640Project Number:06318-520Report Date:03/08/12

### **Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

Please contact Client Services at 800-624-9220 with any questi-
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MCP Related Narratives

Report Submission

All MCP required questions were answered with affirmative responses; therefore, there are no relevant protocol-specific QC and/or performance standard non-conformances to report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

Title: Technical Director/Representative Date: 03/08/12

600, Skudow Kelly Stenstrom

ANALYTICA

## **ORGANICS**



## **PCBS**



Project Name: FMR. ENERGY INT. PARCEL Lab Number: L1203640

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: Date Collected: 03/02/12 08:10

Client ID: HA-201 S1 Date Received: 03/02/12 Sample Location: 495 TECH CTR. Field Prep: Not Specification of the control of th

Sample Location:495 TECH CTR.Field Prep:Not SpecifiedMatrix:SoilExtraction Method:EPA 3540CAnalytical Method:97,8082Extraction Date:03/03/12 00:20Analytical Date:03/05/12 15:05Cleanup Method1:EPA 3665A

Analyst: KB Cleanup Date1: 03/05/12
Percent Solids: 84% Cleanup Method2: EPA 3660B
Cleanup Date2: 03/05/12

**Parameter** Result Qualifier Units RLMDL **Dilution Factor** MCP Polychlorinated Biphenyls - Westborough Lab Aroclor 1016 ND ug/kg 38.0 1 ND Aroclor 1221 38.0 1 ug/kg --Aroclor 1232 ND 38.0 1 ug/kg --Aroclor 1242 ND ug/kg 38.0 1 ND 1 Aroclor 1248 ug/kg 38.0 --Aroclor 1260 104 38.0 1 ug/kg Aroclor 1262 ND ug/kg 38.0 1 Aroclor 1268 ND 38.0 1 ug/kg --

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,4,5,6-Tetrachloro-m-xylene	79		30-150	
Decachlorobiphenyl	72		30-150	
2,4,5,6-Tetrachloro-m-xylene	78		30-150	
Decachlorobiphenyl	75		30-150	



**Project Name:** Lab Number: FMR. ENERGY INT. PARCEL L1203640

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: Date Collected: 03/02/12 08:10 L1203640-01

Client ID: Date Received: 03/02/12 HA-201 S1 Sample Location: 495 TECH CTR. Field Prep: Not Specified

**Extraction Method: EPA 3540C** Matrix: Soil Analytical Method: 97,8082 **Extraction Date:** 03/03/12 00:20 Analytical Date: 03/05/12 15:05 Cleanup Method1: EPA 3665A Analyst: KΒ Cleanup Date1: 03/05/12

84% Percent Solids: Cleanup Method2: EPA 3660B

Cleanup Date2: 03/05/12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborou	gh Lab					
Aroclor 1254	121		ug/kg	38.0		1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
Gurrogate	76 Necovery	Qualifier	Criteria	
2,4,5,6-Tetrachloro-m-xylene	79		30-150	
Decachlorobiphenyl	72		30-150	
2,4,5,6-Tetrachloro-m-xylene	78		30-150	
Decachlorobiphenyl	75		30-150	



03/05/12

Cleanup Date1:

**Project Name:** Lab Number: FMR. ENERGY INT. PARCEL L1203640

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: Date Collected: 03/02/12 08:20 L1203640-02

Client ID: HA-201 S2 Date Received: 03/02/12 Sample Location: 495 TECH CTR. Field Prep:

Not Specified **Extraction Method: EPA 3540C** Matrix: Soil Analytical Method: 97,8082 **Extraction Date:** 03/03/12 00:20 Analytical Date: 03/05/12 15:20 Cleanup Method1: EPA 3665A

84% Percent Solids: Cleanup Method2: EPA 3660B

Cleanup Date2: 03/05/12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborougl	h Lab					
Aroclor 1016	ND		ug/kg	39.4		1
Aroclor 1221	ND		ug/kg	39.4		1
Aroclor 1232	ND		ug/kg	39.4		1
Aroclor 1242	ND		ug/kg	39.4		1
Aroclor 1248	ND		ug/kg	39.4		1
Aroclor 1260	103		ug/kg	39.4		1
Aroclor 1262	ND		ug/kg	39.4		1
Aroclor 1268	ND		ug/kg	39.4		1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,4,5,6-Tetrachloro-m-xylene	83		30-150	
Decachlorobiphenyl	78		30-150	
2,4,5,6-Tetrachloro-m-xylene	83		30-150	
Decachlorobiphenyl	84		30-150	



Analyst:

KΒ

Project Name: FMR. ENERGY INT. PARCEL Lab Number: L1203640

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: Date Collected: 03/02/12 08:20

Client ID: HA-201 S2 Date Received: 03/02/12 Sample Location: 495 TECH CTR. Field Prep: Not Specified

Matrix: Soil **Extraction Method: EPA 3540C** Analytical Method: 97,8082 **Extraction Date:** 03/03/12 00:20 Analytical Date: 03/05/12 15:20 Cleanup Method1: EPA 3665A Analyst: KΒ Cleanup Date1: 03/05/12

Percent Solids: 84% Cleanup Method2: EPA 3660B Cleanup Date2: 03/05/12

ParameterResultQualifierUnitsRLMDLDilution FactorMCP Polychlorinated Biphenyls - Westborough LabAroclor 1254118ug/kg39.4--1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,4,5,6-Tetrachloro-m-xylene	83		30-150	
Decachlorobiphenyl	78		30-150	
2,4,5,6-Tetrachloro-m-xylene	83		30-150	
Decachlorobiphenyl	84		30-150	



Project Name: FMR. ENERGY INT. PARCEL Lab Number: L1203640

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: L1203640-03 Date Collected: 03/02/12 08:25

Client ID: HA-201 S3 Date Received: 03/02/12
Sample Location: 495 TECH CTR Field Prep: Not Specif

Sample Location:495 TECH CTR.Field Prep:Not SpecifiedMatrix:SoilExtraction Method:EPA 3540CAnalytical Method:97,8082Extraction Date:03/03/12 00:20

Analytical Date: 03/05/12 15:36 Cleanup Method1: EPA 3665A
Analyst: KB Cleanup Date1: 03/05/12
Percent Solids: 78% Cleanup Method2: EPA 3660B
Cleanup Date2: 03/05/12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls -	Westborough Lab					
Aroclor 1016	ND		ug/kg	42.4		1
Aroclor 1221	ND		ug/kg	42.4		1
Aroclor 1232	ND		ug/kg	42.4		1
Aroclor 1242	ND		ug/kg	42.4		1
Aroclor 1248	ND		ug/kg	42.4		1
Aroclor 1254	ND		ug/kg	42.4		1
Aroclor 1260	ND		ug/kg	42.4		1
Aroclor 1262	ND		ug/kg	42.4		1
Aroclor 1268	ND		ug/kg	42.4		1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,4,5,6-Tetrachloro-m-xylene	69		30-150	
Decachlorobiphenyl	60		30-150	
2,4,5,6-Tetrachloro-m-xylene	65		30-150	
Decachlorobiphenyl	59		30-150	



**Project Name:** Lab Number: FMR. ENERGY INT. PARCEL L1203640

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: Date Collected: 03/02/12 08:15 L1203640-06

Client ID: HA-201 S1B Date Received: 03/02/12 495 TECH CTR. Sample Location: Field Prep: Not Specified

**Extraction Method: EPA 3540C** Matrix: Soil Analytical Method: 97,8082 **Extraction Date:** 03/03/12 00:20 Analytical Date: 03/05/12 15:51 Cleanup Method1: EPA 3665A Analyst: KΒ Cleanup Date1: 03/05/12

86% Percent Solids: Cleanup Method2: EPA 3660B

Cleanup Date2: 03/05/12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westb	orough Lab					
Aroclor 1016	ND		ug/kg	37.6		1
Aroclor 1221	ND		ug/kg	37.6		1
Aroclor 1232	ND		ug/kg	37.6		1
Aroclor 1242	ND		ug/kg	37.6		1
Aroclor 1248	ND		ug/kg	37.6		1
Aroclor 1254	238		ug/kg	37.6		1
Aroclor 1260	161		ug/kg	37.6		1
Aroclor 1262	ND		ug/kg	37.6		1
Aroclor 1268	ND		ug/kg	37.6		1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,4,5,6-Tetrachloro-m-xylene	78		30-150	
Decachlorobiphenyl	72		30-150	
2,4,5,6-Tetrachloro-m-xylene	76		30-150	
Decachlorobiphenyl	76		30-150	



**Project Name:** FMR. ENERGY INT. PARCEL

**Project Number:** 06318-520 Lab Number:

L1203640

**Report Date:** 

03/08/12

**Method Blank Analysis Batch Quality Control** 

Analytical Method: Analytical Date:

97,8082 03/05/12 16:06

Analyst:

KΒ

Extraction Method: EPA 3540C Extraction Date:

03/03/12 00:20

Cleanup Method1: EPA 3665A

Cleanup Date1: Cleanup Method2: EPA 3660B

03/05/12

Cleanup Date2:

03/05/12

MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01-03,06         Batch: WG521225-1           Aroclor 1016         ND         ug/kg         33.3            Aroclor 1221         ND         ug/kg         33.3            Aroclor 1232         ND         ug/kg         33.3            Aroclor 1242         ND         ug/kg         33.3	Parameter	Result Qua	lifier Units	RL	MDL	
Aroclor 1221         ND         ug/kg         33.3            Aroclor 1232         ND         ug/kg         33.3	MCP Polychlorinated Biphenyls -	Westborough Lab f	or sample(s): 0	1-03,06 Batch:	WG521225-1	
Aroclor 1232 ND ug/kg 33.3	Aroclor 1016	ND	ug/kg	33.3		
3 3	Aroclor 1221	ND	ug/kg	33.3		
Aroclor 1242 ND ug/kg 33.3	Aroclor 1232	ND	ug/kg	33.3		
A100101 1242 11D ug/kg 55.5	Aroclor 1242	ND	ug/kg	33.3		
Aroclor 1248 ND ug/kg 33.3	Aroclor 1248	ND	ug/kg	33.3		
Aroclor 1254 ND ug/kg 33.3	Aroclor 1254	ND	ug/kg	33.3		
Aroclor 1260 ND ug/kg 33.3	Aroclor 1260	ND	ug/kg	33.3		
Aroclor 1262 ND ug/kg 33.3	Aroclor 1262	ND	ug/kg	33.3		
Aroclor 1268 ND ug/kg 33.3	Aroclor 1268	ND	ug/kg	33.3		

		Acceptance
%Recovery	Qualifier	Criteria
89		30-150
67		30-150
90		30-150
74		30-150
	89 67 90	%Recovery Qualifier  89 67 90



## Lab Control Sample Analysis Batch Quality Control

**Project Name:** FMR. ENERGY INT. PARCEL

Lab Number: L1203640

**Project Number:** 06318-520 Report Date: 03/08/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Polychlorinated Biphenyls - Westboroug	gh Lab Associat	ed sample(s)	: 01-03,06	Batch: WG	521225-2 WG52	1225-3		
Aroclor 1016	75		77		40-140	3		30
Aroclor 1260	71		72		40-140	1		30

	LCS		LCSD		Acceptance	
Surrogate	%Recovery	Qual	%Recovery	Qual	Criteria	
2,4,5,6-Tetrachloro-m-xylene	85		91		30-150	
Decachlorobiphenyl	71		79		30-150	
2,4,5,6-Tetrachloro-m-xylene	79		85		30-150	
Decachlorobiphenyl	73		81		30-150	



# INORGANICS & MISCELLANEOUS



Project Name: FMR. ENERGY INT. PARCEL Lab Number: L1203640

**SAMPLE RESULTS** 

 Lab ID:
 L1203640-01
 Date Collected:
 03/02/12 08:10

 Client ID:
 HA-201 S1
 Date Received:
 03/02/12

Client ID: HA-201 S1 Date Received: 03/02/12 Sample Location: 495 TECH CTR. Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	84		%	0.10	NA	1	-	03/06/12 14:33	30,2540G	SM



Project Name: FMR. ENERGY INT. PARCEL Lab Number: L1203640

**SAMPLE RESULTS** 

Lab ID: L1203640-02 Date Collected: 03/02/12 08:20

Client ID: HA-201 S2 Date Received: 03/02/12 Sample Location: 495 TECH CTR. Field Prep: Not Specified

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab	)								
Solids, Total	84		%	0.10	NA	1	-	03/06/12 14:33	30,2540G	SM



Project Name: FMR. ENERGY INT. PARCEL Lab Number: L1203640

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

Lab ID: L1203640-03 Date Collected: 03/02/12 08:25

Client ID: HA-201 S3 Date Received: 03/02/12 Sample Location: 495 TECH CTR. Field Prep: Not Specified

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab	)								
Solids, Total	78		%	0.10	NA	1	-	03/06/12 14:33	30,2540G	SM



Project Name: FMR. ENERGY INT. PARCEL Lab Number: L1203640

**Project Number:** 06318-520 **Report Date:** 03/08/12

**SAMPLE RESULTS** 

 Lab ID:
 L1203640-06
 Date Collected:
 03/02/12 08:15

 Client ID:
 HA-201 S1B
 Date Received:
 03/02/12

Sample Location: 495 TECH CTR. Field Prep: Not Specified

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - V	Westborough Lab	)								
Solids, Total	86		%	0.10	NA	1	-	03/06/12 14:33	30,2540G	SM



Lab Duplicate Analysis
Batch Quality Control

Lab Number: **Project Name:** FMR. ENERGY INT. PARCEL L1203640

03/08/12 **Project Number:** Report Date: 06318-520

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab	Associated sample(s): 01-03,06	QC Batch ID: WG521658-1	QC Sample:	L1203640-02	Client ID:	HA-201 S2
Solids, Total	84	85	%	1		20



Lab Number: L1203640

**Project Name:** FMR. ENERGY INT. PARCEL

**Project Number:** 06318-520 **Report Date:** 03/08/12

# **Sample Receipt and Container Information**

Were project specific reporting limits specified?

Reagent H2O Preserved Vials Frozen on: NA

**Cooler Information Custody Seal** 

Cooler

A Absent

Container Info	rmation			Temp			
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1203640-01A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	TS(7),MCP-8082-10- 3540C(365)
L1203640-02A	Amber 120ml unpreserved	Α	N/A	2.8	Y	Absent	TS(7),MCP-8082-10- 3540C(365)
L1203640-03A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	TS(7),MCP-8082-10- 3540C(365)
L1203640-04A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	HOLD(14)
L1203640-05A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	HOLD(14)
L1203640-06A	Amber 120ml unpreserved	Α	N/A	2.8	Υ	Absent	TS(7),MCP-8082-10- 3540C(365)



Project Name:FMR. ENERGY INT. PARCELLab Number:L1203640Project Number:06318-520Report Date:03/08/12

#### **GLOSSARY**

#### **Acronyms**

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes
or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

 MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

#### **Footnotes**

The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

#### **Terms**

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

## Data Qualifiers

- A Spectra identified as "Aldol Condensation Product".
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

Report Format: Data Usability Report



Project Name:FMR. ENERGY INT. PARCELLab Number:L1203640Project Number:06318-520Report Date:03/08/12

### **Data Qualifiers**

- **P** The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- $\boldsymbol{R}$  Analytical results are from sample re-analysis.
- **RE** Analytical results are from sample re-extraction.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Project Name:FMR. ENERGY INT. PARCELLab Number:L1203640Project Number:06318-520Report Date:03/08/12

### REFERENCES

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

# **LIMITATION OF LIABILITIES**

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



# Certificate/Approval Program Summary

Last revised January 30, 2012 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

# Connecticut Department of Public Health Certificate/Lab ID: PH-0574. NELAP Accredited Solid Waste/Soil.

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. <a href="https://doi.org/10.2016/journal.org/10

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

## Maine Department of Human Services Certificate/Lab ID: 2009024.

*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. <u>Organic Parameters</u>: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223D, 9222D. Organic Parameters: 608, 8081, 8082, 8330, 8151A, 624, 8260, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014A, 9040B, 9045C, 6010B, 7471A, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8330, 8151A, 8081A, 8082, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

## Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.

Drinking Water (Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

Page 25 of 28, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Tl, Zn); (EPA 200.8 for: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Tl, Zn); (EPA 200.7 for: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, Ti, Tl, V, Zn); 245.1, SM4500H, B, EPA 120.1,

SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B;Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. NELAP Accredited.

Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8151A.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050C, 9065,1311, 1312, 3005A, 3050B. Organic Parameters: SW-846 3540C, 3546, 3550B, 3580A, 3630C, 5030B, 5035, 8260B, 8270C, 8330, 8151A, 8015B, 8082, 8081A.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. NELAP Accredited.

Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 6020, 6020A, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, 3015, EPA 6010B, 6010C, 7196A, 3060A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8081B, 8082, 8082A, 8151A, 8330, NJ OQA-QAM-025 Rev.7, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C, 7196A, 3060A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3545, 3546, 3550B, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. NELAP Accredited.

Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-04-1-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 9010B, 9030B.. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: 1010, 1030, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8015B, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

North Carolina Department of the Environment and Natural Resources <u>Certificate/Lab ID</u>: 666. <u>Organic Parameters</u>: MA-EPH, MA-VPH.

Page 26 in king Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection <u>Certificate/Lab ID</u>: 68-03671. *NELAP Accredited. Drinking Water* (Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 1312, 200.7, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE. Organic Parameters: EPA 3510C, 3005A, 3630C, 5030B, 625, 624, 608, 8081A, 8081B, 8082, 802A, 8151A, 8260B, 8270C, 8270D, 8330)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 3060A, 6010B, 6010C, 7196A, 7471A, 9010B, 9012A, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3546, 3580A, 3630C, 5035, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260B, 8270C, 8270D, 8330)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. *NELAP Accredited via NY-DOH.*Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** <u>Certificate/Lab ID</u>: T104704476-09-1. *NELAP Accredited. Non-Potable Water* (<u>Inorganic Parameters</u>: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2<sup>-</sup> D, 510C, 5210B, 5220D, 5310C, 5540C. <u>Organic Parameters</u>: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. *NELAP Accredited. Non-Potable Water* (Inorganic Parameters: EPA 3005A,3015,1312,6010B,6010C,SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X. Organic Parameters: EPA 8260B)

Solid & Hazardous Waste (Inorganic Parameters: EPA 3050B, 1311, 1312, 6010B, 6010C, 9030B, 9010B, 9012A, 9014. Organic Parameters: EPA 5035, 5030B, 8260B.)

Department of Defense, L-A-B <u>Certificate/Lab ID</u>: L2217. Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 5220D, 5310C, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8270C, 8330A, 625, 8082, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9010, 9012A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8270C, 8330A/B-prep, 8082, 8081A, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:

**EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix, SO4 in a soil matrix.

WHITE - Laboratory

CANARY - Project Manager

PINK - Haley & Aldrich Laboratory

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AUGUST 2008